TASMANIA'S NATIVE VEGETATION POLICY: TOWARDS AN INTEGRATED FRAMEWORK

By

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STATEMENT OF ORIGINALITY

This thesis contains no material which has been accepted for the award of any other degree or diploma in any University, and to the best of my knowledge, contains no copy or paraphrase of material previously written or published by any other person except where due reference is given in the text.

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STATEMENT OF CO-AUTHORSHIP

The following people and institutions contributed to the publication of the work undertaken as part of this thesis:

- Harris, Shaw and Crane (2009) on ex situ conservation planning for Tasmania.
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Details of authors' roles:
S. Harris made key contribution to the formulation and development of the idea, sourced relevant data and information, and directed and led the preparation and refinement of initial and successive drafts.

J. Shaw contributed to the development of the paper, sourced some data on threatened species and provided input on the early drafts of the paper.

N. Crane assisted S. Harris in preparing an early draft and locating some literature references.

- Paper by Harris, Allen, Baker, Bird, Bowman, Connolly, d'Arville, Harwood, Rozefelds and Wardlaw (1991) on guidelines for collecting dendrochronology samples from Tasmanian public reserves.

S. Harris (45%), K. Allen, Monash University (6%); P. Baker, Monash University (6%); T. Bird (6%); D. Bowman, University of Tasmania (6%); A. Connolly, Environment Protection Authority Queensland (6%); L. d'Arville (6%); C. Harwood, CSIRO (6%); A. Rozefelds, Tasmanian Museum and Art Gallery (6%); T. Wardlaw, Forestry Tasmania (6%).

Details of authors' roles:
S. Harris defined the problem, scoped the required elements of the paper, prepared an early draft of the paper with assistance of A. Connolly, chaired a half day workshop of specialists, synthesised relevant conclusions from the workshop, led the refinement of successive drafts of the manuscript and designed the decision tree with assistance (mainly formatting) from L. d'Arville.

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A. Connolly assisted in preparing an early rough draft of the paper and locating some literature references.

L. d'Arville assisted in formatting the decision tree and preparing the final paper for submission.

We the undersigned agree with the above stated "proportion of work undertaken" for each of the above published peer-reviewed manuscripts contributing to this thesis.

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GLOSSARY OF ACRONYMS

ABIF	Australian Biological Information Facility
ABRS	Australian Biological Resources Study
ACF	Advocacy Coalition Framework
AFS	Australian Forestry Standard
ANZECC	Australian New Zealand Environment and Conservation Council (replaced by the Natural Resource Management Ministerial Council in 2001
BDAC	Biological Diversity Advisory Council
BIOSIRT	Biosecurity Surveillance Incident Response and Tracing
CAPAD	Conservation and Protected Areas Database
CAR	Comprehensive, Adequate and Representative
CARSAG	Comprehensive, Adequate and Representative Scientific Advisory Group
CBD	Convention on Biological Diversity
CEPA	Communication, Education and Public Awareness
CERF	Commonwealth Environmental Research Facilities
CFOC	Caring for our Country
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COAG	Council of Australian Governments
CLAC	Crown Land Assessment Committee
CMA	Catchment Management Authority
CSIRO	Commonwealth Scientific Industrial Research Organisation
DAFF	Department of Agriculture, Fisheries and Forestry

DEWHA	Department of Environment, Water, Heritage and the Arts
DIISR	Department of Innovation, Industry Science and Research
DPIPWE	Department of Primary Industries, Parks, Water and Environment
EA	Environment Australia (now the Department of Environment, Water, Heritage and the Arts)
ENGO	Environmental Non-Government Agency
EPBC	*Environment Protection and Biodiversity Conservation Act 1999*
ERHOA	Environment and Resources Heads of Agency
ESCAVI	Executive Steering Committee on Australian Vegetation Information
ESD	Ecological Sustainable Development
FPP	Forest Practices Plan
GBIF	Global Biological Information Facility
GIS	Geographic Information System
GMO	Genetically modified organism
GSPC	Global Strategy for Plant Conservation
IBRA	Interim Biogeographic Regionalisation of Australia
ICM	Integrated Catchment Management
IGAE	Inter-governmental Agreement on the Environment
ISO1401	International Standard: Environmental Management System
JANIS	Joint ANZECC/MCFA National Forest Policy Statement Implementation Sub-committee
LUPA	*Land Use Planning and Approvals Act 1993*.
LWRRDC	Land and Water Resources Research and Development Corporation

M&E	Monitoring and Evaluation
MCFFA	Ministerial Council on Forestry, Fisheries and Agriculture
MERI	Monitoring and Evaluation Resource Indicator
NCRIS	National Collaborative Research Infrastructure Strategy
NFI	National Forest Inventory
NGO	Non-Government Organisation
NEPI	New Environmental Policy Instruments
NHT	Natural Heritage Trust
NLWRA	National Land and Water Resources Audit
NPWS	National Parks and Wildlife Service
NRM	Natural Resource Management
NRMMC	Natural Resource Management Ministerial Council
NRNGA	Natural Resource New Governance Arrangements
NRS	National Reserve System
NVF	Native Vegetation Framework
NVIS	Native Vegetation Information System
OECD	Organisation for Economic Co-operation and Development
PAMA	Public Authority Management Agreement
PFT	Private Forests Tasmania
PI	photo interpretation
RAMSAR	Convention on Wetlands of International Importance especially as Waterfowl Habitat (initiated at Ramsar in Iran)
RFA	Regional Forest Agreement

RMPS	Resource Management Planning System
RPDC	Resource Planning and Development Commission
RTBG	Royal Tasmanian Botanical Gardens
SOE	State of Environment
SOF	State of Forests
TAC	Tasmanian Aboriginal Centre
TASVEG	Tasmanian Vegetation map
TASVEG VCA	Vegetation Condition Assessment based on the Tasmanian Vegetation map
TERN	Terrestrial Ecosystem Research Network
TLC	Tasmanian Land Conservancy
UNCED	United Nations Conference on Environment and Development
UNESCO	United Nations Education, Scientific and Cultural Organisation
VMA	Vegetation Management Act
WHA	World Heritage Area

ABSTRACT

Vegetation policy initiatives were rare throughout much of Tasmania‘s European history until the 1970s. Evidence of policy learning was even rarer, and no substantial policy framework existed until the proclamation of the *National Parks and Wildlife Act 1970*. This was the chief instrument until it was eclipsed in importance for vegetation management in 1997 by the Regional Forest Agreement. Although developed to support a sustainable forest industry, it has developed a wider importance as the principal de facto vegetation policy framework, arguably overshadowing the importance of other Acts and policies. Evaluation and learning mechanisms are built into the Regional Forest Agreement and episodic improvements at the policy level have been demonstrated as a result. Both these instruments however, are considered to fall short of a comprehensively articulated development of vegetation policy because of gaps and the limitations of their particular perspectives.

From the 1980s, following the strengthening of Commonwealth control over natural resources, most policy initiatives in vegetation have originated at the national level. The state has been responsive to these initiatives developed sometimes bilaterally with the Commonwealth or often multilaterally with other states and territories and the Commonwealth. National obligations under international agreements have been the eventual impetus for a wide range of actions at the state level. While Commonwealth and state policy objectives have tended to converge, there is still a poorly coordinated policy pathway from state government level to local government and Natural Resource Management (NRM) regional bodies.

The national agenda-setting over the last two decades has resulted in some policy gaps at the state level. A sub-optimal policy and process milieu exists for dealing with many vegetation issues. There has also been the construction of an excessively intricate administrative and policy delivery framework. The small size of the state and its bureaucracy, and close professional relationships of some of the actors, may have benefited the implementation of this framework.

There is ample evidence that useful policy development has occurred as a result of program and project evaluation. Therefore, various policy-learning approaches do

provide a productive theoretical framework to examine the development of Tasmanian vegetation policy. In the vegetation arena, review, lesson-drawing and consequent change have been evident in Tasmanian public policy. However, one shortcoming has been the apparent lack of continuity in monitoring programs and evaluation at the broadest level. Another has been the isolation in which most reviews and policy evaluation have been done. The extent to which lesson learning occurred was scant up until the 1990s. Evidence for lesson learning became apparent after the 1970s and from the 1990s the evaluation of policy became widespread. A relevant question addressed in this thesis is not so much what can be learned, but who is there to learn it?

A speculative vegetation management policy framework is proposed. A Native Vegetation Act could form the central part of a framework. This would be the first ever specific Tasmanian Native Vegetation Act. This would include some of the policy measures currently contained under the Regional Forest Agreement framework but which are suggested could be migrated to the provisions of a new Act, leaving the Regional Forest Agreement and whatever may succeed it, as an industry sustainability plan. This would unburden it of needing to bear the responsibility of policy prescriptions that ought to be in place regardless. A new Act would establish requirements for a minimum native vegetation cover, research, monitoring and evaluation, information management, fire, vegetation conservation tools, measures to facilitate sustainable use of commercial products from native vegetation. An administrative framework would include high-level advisory councils for fire, information, conservation status of vegetation communities, conservation status of flora species and vegetation-based products and industries. Such a structure as proposed here is aimed at rapid adoption of program and policy lessons in a whole-of-government framework.

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Notwithstanding the assistance I have received from the Department and my government colleagues, the arguments presented, the interpretations made, and the conclusions drawn, are my own. They do not necessarily reflect those of the State Government or of the Department of Primary Industries, Parks, Water and Environment, or of Commonwealth government agencies or any other individuals or organisations.

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CHAPTER ONE

INTRODUCTION

1.1 Chapter Aims

This chapter sets the background of this thesis by describing the vegetation and broad biophysical character of Tasmania. The case will be made of the need to examine vegetation policy in the state, particularly using an appropriate theoretical lens. Some research hypotheses and questions will be posed to guide this study. The scope and limitations of this thesis will be clearly described. This chapter will indicate the structure of the thesis.

1.2 Research Plan

1.2.1 Aims.

This thesis characterises Tasmania‘s past and present vegetation policy and offers a critical analysis of its development through lesson-learning theoretical principles. It provides an interpretation of how the current policy landscape has formed and where it should proceed. It aims to prepare a guiding framework for vegetation policy development.

1.2.2 Significance

The significance of this thesis will lay in its being arguably the first thematic analysis of Tasmania‘s vegetation policy field. The study invokes lesson learning and examines the barriers to the development of integrated and holistic policy. This study furthermore proposes the principles of a state policy framework against changing policy contexts without any presuppositions about any particular policy framework being infallible.

Vegetation policy can be approached from different perspectives that might include issues such as commercial forestry, sandalwood harvesting, ecotourism, and salinity. In this study, I approach the subject from the perspective of the conservation, management and sustainability of native flora species and ecological vegetation communities, including the commercial value of ecosystem services. This necessarily involves consideration of the threats to these values as well as

other activities that impinge on them, such as traditional activities of indigenous people and commercial uses of flora. The field is complex and multilayered and vegetation policy has developed, such as it is, separately in the states, with the Commonwealth only recently seeing itself (ANZECC 2000) in a coordinating and pro-active role.

1.2.3 Research Hypothesis.

That vegetation policy in Tasmania has been partial, and focused in one sector (forestry) such that broader policy options for a comprehensive, articulated approach are being overlooked, neglected or subject to work driven by immediate needs.

1.2.4 Research Questions.

The following questions guided the direction of the research for this thesis:

- How has the current vegetation policy landscape evolved in the general context of Australian vegetation management, particularly when measured against a national reporting framework?
- How are intergovernmental relationships evolving in respect of responsibilities for natural resource management in general and vegetation issues in particular and what issues are best dealt with by the different tiers of government?
- What are the gaps in Tasmanian vegetation policy?
- What can be learned in the Tasmanian vegetation policy arena and are policy-learning theories able to illuminate the way natural resource management policy in general, and vegetation policy in particular, should develop?
- What would a framework look like that could potentially act as a guide and a template for ongoing vegetation policy development and discourse?

This thesis could profitably take a number of directions because policy analysis literature dealing with vegetation issues across Australia is still scant thereby affording a wealth of scope. Vegetation topic-driven case studies alone for example, could be a focus for separate detailed examination. The present study however, forms the first comprehensive contemporary overview of vegetation policy in

Tasmania. This study puts Tasmania in a continental context and develops a forward-looking framework that provides focus for further policy attention.

1.2.5 Scope and Limitations of the Thesis

This thesis is mostly a substantive area large-scale case study that uses theory to assist in explaining useful policy gains and in designing a framework that is reflexive and responsive to evaluation. It thus has practical aims, using existing theory rather than using a substantive area to develop or expand new theory.

This thesis does not analyse, in detail, the existing Tasmanian Resource Management Planning System Framework (see Clarke 1998). The system is briefly described in Chapter 4, and presented in a general way within a discussion about the government's broad legislative framework. Historical developments are described with the intention of helping to explain the genesis of the current vegetation management policy landscape. More detailed aspects of the historical developments in the reserve system and the extent to which the reserve system captures representativeness in biodiversity may be found discussed by Brown and Hickey (1990), Harris and Whinam (1994), and Mendel (1999). The nature of lobbying, conservation groups and the political process around conservation has also been the subject of previous focus (see for example Davis 1980, 1991) but aspects are discussed in this thesis where they assist in illuminating the general arguments being developed.

Institutional analysis has not been invoked here as a theoretical lens, except in passing. However clumsy an institutional arrangement for effecting policy, this may not necessarily adversely affect outcomes and is not normally evaluated in programs. The exception is the institutional and capacity-building analysis discussed later (Chapter 6), included because this was part of the Native Vegetation Framework.

Furthermore, the thesis is not a history of botanical or vegetation science, nor the aesthetic appreciation of scenery, forests and fern glades. These topics have been dealt with in varying depth elsewhere (see for example, Bonyhardy 2000). Reference is, however, made in this thesis to a wide literature across science, public

policy and environmental law because of the mutual interdependency of these fields in policy development across a technical field such as vegetation management.

The forest industry is a major dimension to vegetation conservation, management and policy, and therefore might be expected to form a major part of this thesis. This is an area that has been the subject of many separate studies and analyses. The forestry industry dimension will be an important part of any vegetation management framework and so advantage is taken of the many existing sources to incorporate the forest policy perspective into the proposed framework. However, forest industry policy is not the focus of this thesis.

With each of these above areas there are many general issues and implications of how these themes are addressed that are treated in this thesis. Administrative and policy implications from each of these areas will have a bearing on vegetation management policy. Analysis of public policy in any of the natural resource management themes is a relatively new field (Dovers and Wild River 2003, Walker 1994). It is one that has been characterised in its early phase in Australia and overseas by historical and policy conflict-oriented analytical approaches (Crowley, pers. comm. 16 June 2008, Simeon 1976).

1.2.6 Some Methodological Notes

This thesis deals with the development of modern vegetation policy in Tasmania by applying several techniques:

- Policy analysis using the policy-learning approach. This, broadly interpreted, will be the theoretical lens. However, other theoretical insights will be invoked in some of the analysis. It is valid to use a multi-theoretical lens in policy analysis.
- Direct objective participant/observer. This thesis is written from the perspective of a middle manager at the interface between science and policy. The potential difficulties in terms of bias and the need for ensuring separation of detached observer from influencing participant are recognised. Observations will be supported by published and unpublished documents in the public domain.

- Historical analysis. This contextual narrative will cross-reference with the theoretical perspective.
- Gap analysis. This will be applied to current Tasmanian policy instruments for this substantive area.
- Analysis of published and unpublished source material.

Qualitative techniques using direct participant observation combined with document interpretation contribute some of the data, and inform the analysis. Data sources include departmental reports and policy statements that have been in the public domain. Unpublished discussion papers as well as formal documents (whether published or unpublished) and published documents are used (see Robinson 1998).

1.2.7 Description and Definition of Tasmania's Native Vegetation

Tasmania is distinguished amongst the Australian states by its unique complement of native vegetation types occupying cool temperate to Mediterranean ecosystems. Rainforest, alpine scrubland, fjaeldmark, coastal heathlands, wet sclerophyll forests and dry sclerophyll forests and woodlands are some of the major vegetation types represented in the state (Reid *et al*. 1999). There are 147 native vegetation mapping units (Harris and Kitchener 2005) on the current Tasmanian vegetation map. Fifty-six of these are currently incorporated in the 39 vegetation types listed (under 2007 amendments to the *Nature Conservation Act 2002* and the *Forest Practices Act 1985*) as being threatened (Department of Primary Industries and Water 2007). A generalised map of Tasmania's vegetation is shown in Figure 1.The flora within this vegetation also has scientific and biogeographic importance. Of the approximately 1700 native higher plant species, 330 species are endemic in Tasmania, and 560 taxa are listed as threatened species (Tasmanian *Threatened Species Protection Act 1995*). Diversity is high in the bryophyte, lichen and fungi groups.

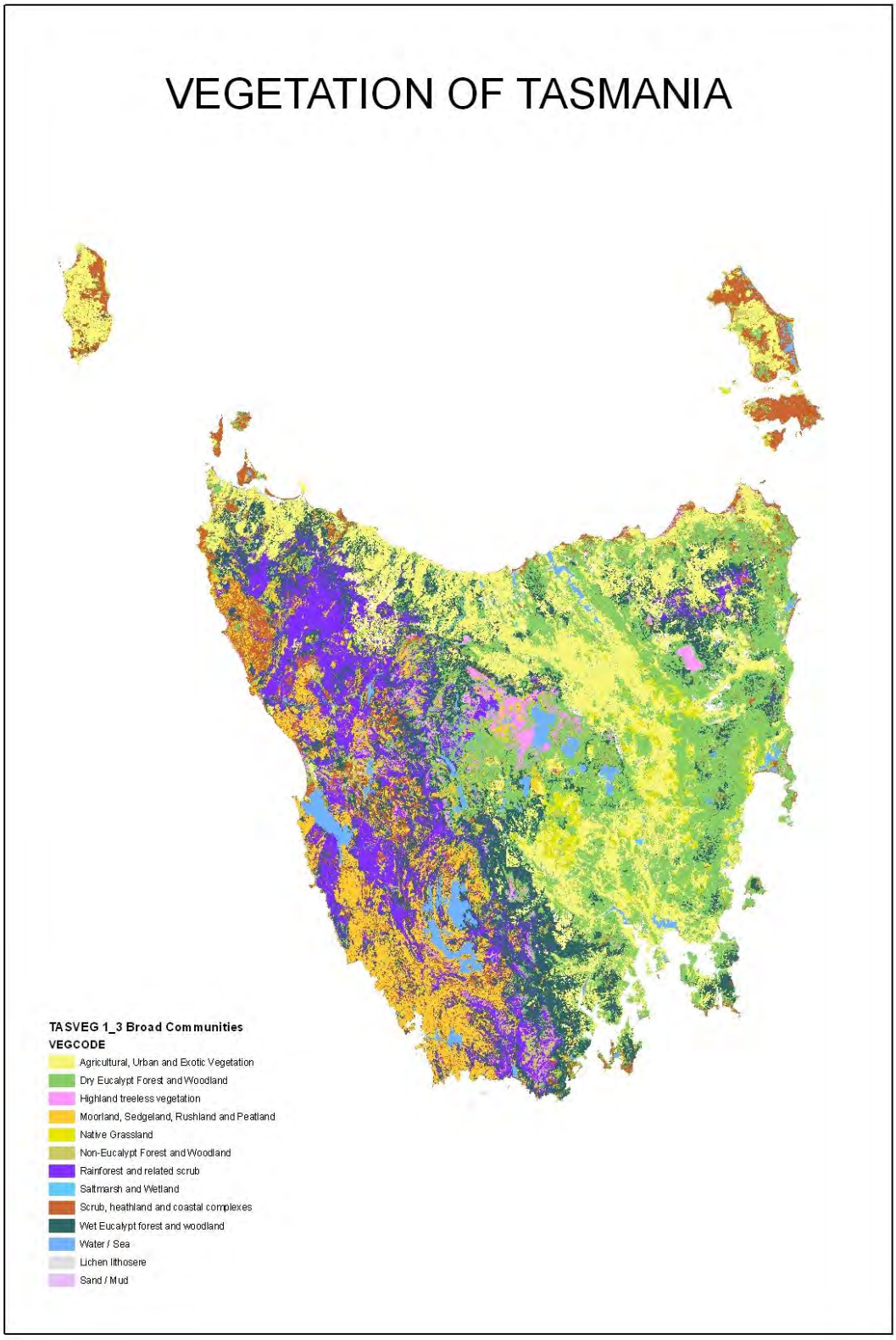
Tasmania's vegetation has formed an intrinsic part of the state's identity as a rugged island clothed extensively in tall eucalypt forests, cool temperate rainforest and alpine vegetation, which contribute to spectacular scenery. This vegetation provides habitats for notable and iconic plant species such as Huon pine, King Billy pine, mountain ash and alpine cushion plants. A combination of physical factors including mild climate, ample rainfall and productive soils has meant that

Tasmania‘s economy has been extensively based on primary production including farming and forestry. Exploiting the forest‘s resources for timber products, or extending the range and scope of agriculture, have been prominent wealth-providing activities in the state‘s development. This has resulted in a landscape of farms and managed forests in eastern and northern Tasmania. Agriculture and forestry infrastructure is extensive throughout this part of Tasmania. Manufacturing, mining or tourism infrastructure is only locally prominent.

In the less productive and infertile areas of the state, rugged mountainous terrain, and high rainfall contribute to spectacular scenery that has become an attraction for bushwalkers and tourists from the rest of Australia and overseas. The often neat coincidence of scenery and low fertility soils or inaccessibility led to the ―worthless lands hypothesis” (Hall 1988:441) to explain the location of national parks.

Land use changes in the latter part of the twentieth century have had considerable impact on the perceptions of an increasingly urbanised population. Information is also more easily available and communication is simpler. For example, data on vegetation types first became available in the *Atlas of Tasmania* (Jackson 1965) and in Davies (1964). A series of successively more detailed and sophisticated vegetation maps has followed these pioneering efforts. The current state vegetation map allows detailed statistics to be compiled on the mapped vegetation by virtue of overlays in a Geographic Information System. Forestry Tasmania began its photo interpretation (PI) program after aerial photographs became available in 1949. There was an increase in knowledge about the distribution of vegetation types, its constituent biota and the natural and human processes occurring within them. This availability of increasingly better knowledge occurred conjointly with increasing concern in the community about conservation and land use issues, at the same time as rising values for forest products.

Figure 1: Vegetation map of Tasmania



Source: Department of Primary Industries, Parks, Water and Environment

Clearing of land for agriculture in Tasmania was encouraged, first through the colonial land grant scheme and subsequently through incentives in taxation systems. Concerns about effects of land use practices on forest resources began early in the twentieth century and saw a succession of government inquiries (e.g. Kessel 1945). Immediate policy and legislative responses were not always readily apparent. The extent to which lesson-drawing and policy learning were applied has never been thoroughly investigated, which will be a gap addressed in this thesis.

There is scant evidence of the development of rational analytical approaches to vegetation policy in Tasmania. In the 1970s and 1980s there were many popular articles on particular aspects of vegetation conservation, mainly as a by-product of major land use conflicts rather than of a systematic nature. Much of this writing might fall into the analytic approach of the political "power, conflict and ideology" (Simeon 1976:550) model. Documenting the policy or the legislative results of these conflicts has been another approach used in other studies. More recent work has been dominated by state policy developments in tandem with nationally driven processes.

This thesis is being written at an important period in Tasmanian natural resource management. Previously, most of the conflicts and subsequent policy responses have been concerned with land use allocation. As a result of the Regional Forest Agreement (1997) and the allocation of all unallocated Crown land in Tasmania through a high-level administrative process (through a Crown Land Assessment and Classification Project Steering Committee), disputes based on land use allocation, with one qualification, have diminished and policy needs are being required at another level. The separation of issues that has existed in the past between forestry practices, hydro-electricity development versus national park, and extent of land clearing for agriculture, is now worth revisiting. A cross-cutting thematic study such as this one may well illustrate the need for integrated "joined-up" policy in this policy field. There are also likely to be policy gaps across the spectrum of matters in this policy field that can be identified by such a study.

The importance of vegetation management to Australian governments and policymakers has become evident in the focus of funding programs through the early days of national initiatives such as "Save the Bush", "Bushcare" and the

–National Vegetation Initiative". The currency of vegetation as a mainstream concern is illustrated in key information assessments prepared for natural resource policy and planning purposes. Of the Natural Heritage Trust investment from 1996 to 2002 (Williams *et al*. 2001), approximately $706 million was allocated for programs directly benefiting vegetation and flora. This is an estimate because some more targeted programs such as Waterwatch and Coast and Clean Seas included projects with a vegetation focus. For roughly comparative purposes, this total figure of less than $1 billion over 6 years is well overshadowed by that spent by the Commonwealth in a single year (budget papers for 1999–2000 and cited in Williams *et al*. 2001) on education, training and youth affairs ($11.3 billion), or health ($18 billion) for example. This small expenditure has perhaps contributed to the relatively small amount of policy analysis of the vegetation management field compared with other areas.

We are currently in a critical and significant time because the demand for appropriate vegetation policy has never been greater and is being driven by many participants. Whether these participants are conservation non-government organisations (NGOs), Natural Resource Management (NRM) groups, the national government, rural industry groups or other special interest groups, there is a common underlying motivation. This is the need for ecologically sustainable development (Dovers 1997) and a mechanism purpose-built for achieving it.

This thesis concerns itself with the management of vegetation and its component flora species. Tasmania's flora comprises many taxa (described entities such as species). A breakdown of major plant groups is shown in Table 1.

Table 1: Numbers of described (known) taxa in the major plant groups (from Reid *et al.* 1999)

Breakdown between so-called "higher" and "lower" plants	Higher and lower plants	Current estimate (Reid *et al.* 1999)
Vascular species	All groups	1,627
Non-vascular	mosses	367
	hepatics	282
	lichens	655

Vegetation is all the cover of plant biomass. Vegetation itself can be classified into taxa (communities). In Australia native vegetation is defined differently across the

states. In Tasmania, native vegetation comprises all vegetation types dominated by native species of flora. Such vegetation comprises diverse structural types of vegetation such as grassland, saltmarsh, alpine fjaeldmark and lichen fields.

Native vegetation comprises any of the communities in all stages of succession or recovery from natural or anthropogenic disturbance—any communities in the transition states ‗0' to ‗III' of Thackway and Lesslie (2006). In Tasmania, native vegetation specifically comprises all the vegetation represented on the Tasmanian vegetation map, TASVEG by all the mapping units (Harris and Kitchener 2005) with the exception of particular units. The exceptions are the following: agricultural land (FAG), extra-urban miscellaneous (FUM), Marram grassland (FMG), plantations for silviculture (FPL), Spartina marshland (FSM), urban areas (FUR) and weed infestations (FWU).

There is no sharp boundary between native vegetation and exotic vegetation. In broadest terms, native vegetation is that comprising or dominated by native plants, whereas non-native or exotic vegetation comprises or is dominated by introduced or exotic plants. Weeds occur in much native vegetation, and native plants in many areas dominated by weeds. There is often some native component within exotic vegetation, even paddocks and weed infestations. Additionally, the values of areas mapped as other than native vegetation include important functions provided by it, such as fauna shelter or soil cover maintenance (ecosystem services). For these reasons the second National Vegetation Assessment is concerning itself with all vegetation cover (Bureau of Rural Sciences 2009).

This thesis deals with a substantive area of policy—native vegetation within a confined geographical area—Tasmania. Case studies of substantive areas have added little to the theoretical basis of public policy but this present study will be important in an Australian context and will assist one Australian state towards integrated joined-up policy. Public policy studies within substantive areas need to consider all policy actors across all institutions and to understand the intergovernmental policy community (Sabatier 1991b). The latter area of study has become of great significance in Europe with the expansion of the European Economic Community and the issues being raised in other nations of federated states such as the US and Australia.

1.3 Structure and Outline of the Thesis.

The introductory chapter (Chapter 1) sets the scene for the study and some background is given to this substantive area for policy focus. Information about the subject of policy deliberations is necessary for debate and to properly frame appropriate questions (Anderson 1979). Chapter 2 deals with the policy-learning approach and other public policy analytical insights. This provides the theoretical grounding for much of the discussion throughout the thesis. A review of policy learning applied to natural resource themes in general and vegetation in particular is the starting point. While the broad theoretical lens is policy learning, the study will draw on a range of theoretical approaches as might be appropriate.

In general, the next three chapters are contextual and deal with the existing vegetation policy landscape in Tasmania and nationally, and the changing intergovernmental relationships over natural resource management issues. Chapter 3 includes a descriptive historical treatment of the development of Tasmanian vegetation and flora policy and provides some context to a description of Tasmania‘s present vegetation policy arena. This chapter looks at the historical development of Tasmanian vegetation policy and the principal factors affecting its course. This is presented as a broad detailed stage on which the contributions of various policy actors may be evaluated.

The description of the present vegetation policy area in Chapter 4 will include a summary of all policy instruments, which is then used as the basis for a later gap analysis. This chapter sets the context for the study by giving an overview of the main elements of Tasmania‘s present native vegetation policy. The implementation and management of the policy instruments are sketched and references made to other states where appropriate. The responsibilities of different levels of government for vegetation management are described. The main policy actors in Tasmania are identified. This chapter, in describing the current situation and its workings, aims to give a clear picture of contemporary vegetation policy. The chapter will examine whether aspects of the vegetation policy landscape may be characterised by ―policy-layering", ―policy drift" and or ―conversion" (Howlett and Rayner 2006:169). The extent to which this can be attributed to the lack of a vegetation policy framework is examined. Is there is a fractured approach—are

there fragments of a vegetation policy framework? The possible need for joined-up integrated policy (see for example Government of Victoria State Services Authority 2007) at state and national level will be considered.

In Chapter 5 the origins of state responsibility for native vegetation management are compared with the historical span of Commonwealth interests in public vegetation policy. Rapidly changing perceptions of roles for the tiers of government are critically examined. The intergovernmental issues must be treated as a major influence on developing vegetation policy in Australia. This actively evolving debate is examined and ways in which ~~"n~~ew federalism" is currently emerging is discussed in detail. Unpublished and published government literature and reports, contemporary press statements and editorials and political policy statements contribute to the source material, along with the few Australian journal articles published on this area (e.g. Crowley 2001). Interestingly, many new studies dealing with natural resource policy have been emerging from the expanded European Union. Some relevant literature has also emanated from other nations of federated states such as the US. These will provide lesson-drawing sources.

There seems little doubt that globalisation of trade and communications, more rapid transport, and the increasing strength of linkages through international law as embodied in treaties and agreements will have a pervasive effect on vegetation policy settings even in Tasmania. The influence of such effects might be more difficult to discern if the approach to this study ignored the wider national picture. Reference to the national perspective will be frequently made in this study on the basis that, at this scale, the international links and influences will also become more apparent. The Commonwealth Government at least make its international obligations and interests explicit in a range of documents and publications. How well these translate to a state scale is of some interest.

The next three chapters comprise an analytical and empirical testing chapter, a synthesising and propositional chapter, followed by a concluding chapter.

A critical analysis of the current state of vegetation policy and a gap analysis are presented in Chapter 6, using the National Vegetation Framework review methods (ANZECC 2000, Griffin nrm P/L 1999). The process appears to be an application

of policy learning to the vegetation theme whereby a current view can be contrasted with an earlier view carried out in 1995. A review of vegetation policy achievements is followed by a gap analysis. In a Tasmanian vegetation context, gap analysis has been used in a spatial sense for reserves for flora as well as a conceptual framework sense for research (Grove 2004), and information (Harris and Magnus 2004). This builds on work carried out as part of the writer‘s role in the state government bureaucracy. In this respect, the author of this thesis treats himself as a ―key informant" thus deriving the advantages of the ―key informant" approach that provides insights that would otherwise not be revealed through normal observation (Borg and Gall 1989:398–399). The effectiveness of such a policy-learning approach will be examined. The current vegetation policy framework as viewed through the national Native Vegetation Framework review process is critically examined using the policy-learning model. The state review provided for 2005 (and prepared by the writer) is updated at the time of writing and is recast as an openly self-critical analysis, rather than as a jurisdiction framing an analysis for the benefit of the Australian Government and other states. This detailed chapter provides an evaluation of all aspects of the current vegetation policy framework and provides some guidance for policy formulation for the period beyond 2017 when the current Regional Forest Agreement expires. The framework will consider the emerging global and national trends that might impact on this substantive area. The framework will provide some principles and reference is made to a blueprint for addressing policy directions. An additional section on governance is included to reflect a growing international concern, and body of literature, on this in the nature conservation context.

The future context for vegetation policy formulation draws on various forecasting or foresighting exercises ranging from the general to the specific in scope. For example, one such study applicable to the work here was a foresighting exercise that was done to identify research, information and associated funding and administrative frameworks for use and management of remnant vegetation. The task carried out under the auspices of the Land and Water Resources Research and Development Corporation and Environment Australia imagined three different scenarios for the year 2025 (Cork *et al.* 2005).

The thesis conclusion (Chapter 7) addresses the hypothesis and research question and evaluates the advantages or otherwise of the policy-learning approach to vegetation policy.

Tasmania is peculiarly suited to a thematic study of vegetation policy. With a range of vegetation types, a relatively good resource information base, the same range of institutions found in larger states, and a number of industries and values dependent on vegetation, the state is faced with many public policy choices. Vegetation management has been directly or indirectly bound up with many public debates in recent times and has been a crucible of some highly contested policy positions. The only island state in the Australian federation, Tasmania encapsulates in its small size and in its history many of the issues facing the other states. As an island laboratory, Tasmania can be used to imagine and discuss a range of public policy options for the vegetation theme.

1.4 Chapter Summary

Tasmania, as Australia‘s only island state, has a diverse and extensive cover of native vegetation due to a unique set of biophysical factors. The state is a microcosm of many aspects of the European settlement on the Australian environment. Some policy attention has been given to native vegetation, but clearly the field will benefit from a fresh examination through a policy-learning theoretical lens. Vegetation policy appears to be served by a rational, defensible and flexible framework for vegetation policy in the state and the contribution of this study will be to the foundation of such a framework.

CHAPTER TWO

POLICY LEARNING AND THE ENVIRONMENT

2.1 Chapter Aims and Introduction

This chapter rather seeks to explicate the patterns and threads of the vegetation policy in Tasmania within a broader environmental policy domain. The focus is on the analysis of this policy rather than a primary interest in theoretical development of the policy learning or other policy analysis theory. The purpose is not to extend or critique policy analysis theory but rather to use such theory to help in understanding the subject matter of the thesis. Particular emphasis is directed towards primarily using a learning based approach in a broad sense to an analysis of Tasmania's vegetation management. The learning "lens" will be applied in later chapters on public management practices. Other analytic approaches, including institutional change theory, path dependency, epistemic community and advocacy coalition models are, however, utilised for their explanatory power. This chapter provides background for later discussion and analysis.

This case study is about the progression of policy development and its institutions, processes and actors and the interrelationships among them. The particular focus on learning in this thesis stems from the administrative and bureaucratic experience of the writer and matches the perspective of this thesis. Essentially, a "managerial view" is taken in this thesis. This chapter defines policy learning, examines closely related concepts such as lesson-drawing and policy transfer. An explanation of policy evaluation and other processes that impinge on a consideration of policy learning are discussed in the light of the aims of this study.

This chapter begins with the literature on relevant policy ideas followed by a focus on learning, institutional and other temporal change analysis (pertinent to Chapter 4). Following path dependency logic it will be shown, particularly in Chapter 5, that institutions such as federalism, agencies and embodied processes that constrain policy ideas can impede policy learning and change. Evaluation and adaptive management is discussed towards the end of the chapter as an explication of principles that will benefit the reflexive framework proposed in Chapter 6.

2.2 Public Policy Analysis as a Foundation for this Study

Most existing policy analytical frameworks relate to process but do not deal effectively with the relationships between policy ideas and institutions and the issues arising from them. Despite this, it is important to outline some of the salient features of these frameworks. Ideas and concepts arising from the analytic frameworks allow insights into policy processes. Another point here is to understand that policy concepts explained in this chapter are not necessarily mutually exclusive. Mostly they are different ways of viewing and interpreting a process or issue. In some cases, one concept or analytical method will produce more explanatory traction than other concepts in that case. As will be seen from this chapter, learning by policy principals or policy actors will almost always be capable of arising from many circumstances, whether within an epistemic community or advocacy coalition or through analysts attempting to find contingent events in an historical sequence or path.

It is necessary to begin with an understanding of epistemic communities, as these in one form or another pervade the fabric of this technical policy domain. This will be evident in later chapters such as Chapter 5 and Chapter 6. This study will not identify particular epistemic communities but, because their presence may be mostly well hidden but often have a role, it is important to understand their nature. The notion of epistemic communities (Haas 1992) has been a powerful explanatory mechanism for analysis in international politics and policy. Its worth at national and sub-national level also is valuable because of the obvious effect such communities have on policy in a technical area.

Epistemic communities are networks of experts sharing the same normative ideas and principles about their particular field of expertise. Such networks can have a great deal of power and influence because of their technical grasp of the policy subject. Their power and influence also arises through the mutual lateral reinforcement of conviction about the desirability of particular policy measures that are then placed with policy decision-makers through multiple points. The process generates a self-reinforcing authority borne out of expertise. Applying the principle on a federal level we could imagine the more technically oriented national coordinating committees under COAG channelling views and principles from an

epistemic community that is wider than the committee and may be dispersed across a number of agencies and research organisations. The point is that the actors within an epistemic community are known to each other and reinforce commonly held views about the particular subject matter of the policy domain. There are policy learning opportunities, often highly politicised, which Eccleston finds (2007:24), are often forged in the realms of policy elites such as think tanks, policy experts, entrepreneurs and others appropriately positioned within policy networks. For the present study technical experts in CSIRO, universities and research institutes should be added.

Prerequisites for successful epistemic community operation are lack of dissension within the community and a particular policy item focus. This can be borne in mind while reading Chapter 5. Indeed, in an integrated vegetation policy framework, a suite of statutory advisory committees as will be suggested in Chapter 6 would, I suggest, need to be prepared for the influence of epistemic communities. The highly technical nature of some of the subject matter of the policy domain in this thesis invites the formation of committees, advisory committees, reference groups, working groups and steering committees.

The distance between epistemic agents and principal policy actors will vary widely depending on the circumstances (Dunlop 2010). Separation of principal policy actors from epistemic communities may not be a bad thing, provided other general filters are used to place over such advice originating from this source. A balance between the benefits of experts‘ views and broader policy considerations need to be struck in many cases.

Policy efficiency arising from an epistemic community is predicated on low autonomy from the political principal. The credibility of such advice (Dunlop 2010) is achieved where decision-makers draw advice from socially legitimate epistemic communities. Dunlop points out that government selects some epistemic communities who exercise control over the produced knowledge. Epistemic communities must have access to decision-makers to have their views embedded in policy. Aspects of this pervade the Tasmanian vegetation policy domain and manifestations will be seen in Chapter 4 for example, especially in the formulation of the first Nature Conservation Strategy.

While the concept of epistemic communities is a recent concept, the lens of power, conflict and ideology has been extant for longer. That politics originates in conflict and the management of conflict determines the direction of politics and, by extension, public policy (Schattschneider 1960) is a valuable insight provided by conflict-oriented theory of political organisation. It could be applied to many aspects of the vegetation (especially forests) commentary. For example, Flanagan's (2007) contribution could arguably be cast as an escalation of a minority view through the process of socialisation of conflict.

Other writers have argued that there is a need to link up policy studies with the three vital elements of ~~–p~~ower, conflict and ideology" (Simeon 1976:550), and that ~~–p~~olicy-making is a matter of conflict" (Simeon 1976:550). Some groundwork for theory development is laid, however, in the call for more effort to develop appropriate theory and to ~~–p~~osit theoretically relevant categories, typologies, or classifications of the different dimensions of policy" (Simeon 1976:553).

A strong analytical focus based around power, conflict and influence has been the overwhelmingly favoured model in much of the policy analysis and writing about natural resource debates in Tasmania. The state has been the location of some major political contests over land use and natural resource issues. This will be expanded in Chapter 3. These began with proposals by government or government agencies to allow access for natural resources such as timber in Mt Field National Park in the early 1950s. It continued with development of hydro-electric resources in a national park in the 1970s and again in wilderness areas and sites of prehistoric cultural significance in the 1980s (Mercer and Peterson 1986). Tasmanian natural resources policy analysis increased with the controversy over the Serpentine River impoundment that flooded the original Lake Pedder (Jones 1971, McKenry 1972, St John 1973). These studies best demonstrate the conflict-oriented approach to analysis evident in the way they dissect decision-making processes, in the way they analyse power and influence, and the way they identify the nature and terms of particular conflicts in attempts to demonstrate where decision-making had gone wrong. They identify winners and losers and apportion blame. Out of these perspectives lessons can also be learned, so such approaches are not mutually exclusive.

The early 1970s saw an expansion in policy analysis. In a review article in 1972, Heclo pointed out the newness of the sub-field of political science called public policy studies. He grappled with the definition and considered it to be ―something ‗bigger' than particular decisions, but ‗smaller' than general social movements" (Heclo 1972:84). Heclo reviewed the scant literature but noted a rising number of studies in this field. There were many analytical case studies in substantive policy areas, but barely anything resembling an analytical framework or any body of empirically tested theory. He called for empirical analyses of learning—temporally, geographically and across policy subject areas—to understand the nature of any adaptive learning by governments. Heclo (1974) proposed the importance of experience in changed behaviour and that the acquisition and use of knowledge provided a better understanding of policy than conflict-based theories, and elaborated this view in his studies of European social policy. Policy analytical theory has developed considerably in the last two decades to the extent where a case study approach such as presented in this thesis is able to use some well-developed theoretical insights to examine the subject matter. A fundamental theoretical tool is the policy stages heuristic, but even in 1991 Sabatier (1991a:145) was claiming that ―researchers have tended to focus exclusively on a single stage with little recognition of work in other stages. The result is weakened theoretical coherence across all stages".

The policy-learning literature examined broadly falls into two categories: (a) what are generally considered to be the seminal works on the concept, and (b) the literature that attempts to empirically test policy learning concepts using case studies. Some studies further develop the theoretical work, sometimes in the context of particular substantive policy areas. Heclo's (1974) classic study of policy learning using a comparison of Scandinavian and British social policies falls into the first category.

The policy learning approach will be a productive and constructive primary lens for analysis of Tasmanian vegetation policy. This may have more appeal to those whose background may be more favourably disposed to a logical positivist approach; that is, whose experience is rooted in a scientific background. However, in this thesis the matters in the policy domain will not be used to test the theory,

rather the theory will be used to explore and explain the policy domain. Additionally, the concept of policy learning has many dimensions and is applicable at all levels. It can arise in tandem with the working of other processes.

Before proceeding to a more detailed discussion of policy learning, a range of other concepts will be discussed. In a call for more work on a theoretical basis for the policy process, Sabatier (1991a) claimed that in this field of political science, the seminal work of Easton (1965) provided a good theoretical basis for the whole policy process. Sabatier (1991a) claimed that in the previous twenty years most of the research on public policy could be divided into four identifiable types. Substantive area research, the first of these, is characterised by largely theoretical studies and is useful to practitioners in their substantive areas. Evaluation and impact studies allowed important steps to be made in integrating such studies into policy studies research. Policy process, the third type, appeared to have been the most productive area of research over the period while fourthly, policy design focused research on policy instruments. Policy process perhaps typifies the nature of this thesis.

It has been urged that the ―stages" heuristic be replaced as it had outlived its usefulness. Sabatier (1991b) claimed that it threw no light on cause and effect; but in my view he overstated the case. The stages heuristic is a useful start to analysis because it imposes some sense of understanding at a high hierarchical level. In the broadest sense it is surely a useful starting point beyond which more detailed theories may be invoked in order to seek causal explanations. I have used it in this way in this thesis. While learning, for example, may be the core business in the evaluation phase, there can be no hard and fast boundaries. Policy learning takes place at all stages of the policy cycle.

Policy implementation has had some focus as part of the policy cycle. May (1986) reviewed what attention had been given this missing part of the policy cycle. He focused in particular on ―political feasibility" (May 1986:110), looking at the relevance of certain political science theories to political feasibility.

In response to a challenge (Sabatier 1991) to improve policy process theory, an increased effort resulted in some new approaches, with Schlager and Blomquist

(1996) comparing three of these. The approaches are the Advocacy Coalition Framework of Sabatier and Jenkins-Smith (1993); the institutional rational choice approach, explained by Ostrom (1990); and the politics of structural choice approach developed by Moe (1990). The salient feature of the Advocacy Coalition Framework is that policy change over a long period (at least 10 years) is viewed in the light of competing advocacy coalitions in a policy sub-system, external factors, and the effects of fairly stable variables such as institutional and administrative arrangements.

In the Institutional Rational Choice approach „Actors' strategy choices are guided by their perceptions of expected benefits and costs, conditioned by the decision situation" (Schlager and Blomquist 1996:653). The Politics of Structural Choice view of policy process advocates a political theory involving the roles of conflict and power in a political process of institutional development and modification.

All three approaches have benefits (Schlager and Blomquist 1996), with the approaches perhaps best being applied to particular areas of policy or types of policy problems.

The advocacy coalition framework is an appealing approach because the use of policy information is cultivated, encouraged and deployed. Davis (1980) used this approach in examining some Australian environmental conflicts. There is a belief in the need to convince other actors of the veracity of a position and the consequences of various alternatives. The advocacy coalition framework was used as an explanatory mechanism for policy change in British Columbia (Lertzman *et al.* 1996) where both a development advocacy coalition and an environmental advocacy coalition were identified. These authors were interested to see whether policy learning and policy change could be detected. They tried to understand the role played by key ideas in instigating learning within dominant advocacy coalitions (some of their claims are contested by Hoberg 1996).

They found that adaptations taken on by a dominant advocacy coalition as a result of any unspecified key idea might cause a major policy shift. Their invocation of paradigm shifts in this case may be out of place. These are major changes that are usually bound up with a whole cluster of changes outside a narrow field. A

paradigm shift though may well arise completely independently of an advocacy coalition framework. The authors seem to understand paradigm shifts as a concept including less than major shifts in thinking. Some interesting observations are made in relation to advocacy coalition frameworks in respect of the British Columbia forest industry, but the contribution to policy change theory in the context of an advocacy coalition framework (ACF) approach appears thin. Importantly, these authors observed that some advocacy coalitions change through time if a component individual or groups have their direct wants satisfied.

They also note that adaptation is a form of learning, that politicians and bureaucrats can move into ―policy broking" and ―acceptable policy space" and that the dominant advocacy coalition can cultivate new epistemic communities by using the encouragement of committee memberships and research funding.

A list of hypotheses in respect of policy change, policy learning and advocacy coalitions themselves has been developed (Sabatier 1988, Sabatier and Jenkins-Smith 1999) and these that have been tested in the context of Spanish national water policy (Bukowski 2007). Bukowski characterises the two main advocacy coalitions (which she calls ―environmentalists and marketizers") in terms of actors, deep core beliefs, policy core beliefs and secondary aspects. The interaction of a paradigm shift wrought by a change from a dictatorship to a liberal democracy and the concurrent questioning of the old prevailing ―hydraulic paradigm" (Bukowski 2007:39) was a major concern in water policy—an exogenous shock. This appears to have been a causal factor in the shift to a new water policy paradigm—one that has become more reinforced by European Union rules and regulations in respect of aspects such as environmentally sustainable water use and river catchment management.

Bukowski's work supports the ACF hypothesis but she highlights further research being required on the ACF hypothesis by stating ―external perturbations are a necessary, but not sufficient, cause of change in the policy core attributes of a government program (Bukowski 2007:55). Questions also emerge as to what factors inhibit policy change, whether there any significant delays between exogenous shocks and the occurrence of policy change, and how any type of delay might be affected by the commitment to core beliefs or other variables.

Policy actors from different tiers of government should not be assumed to belong to the same advocacy coalition either. A convincing example is given where a coalition containing local and state authorities in Denver in the US secured environmental approval at a cost of studies worth $40 million to build water infrastructure at Two Fork (Ellison 1998). The Federal Government, in responding to the national constituency it perceived, vetoed the construction.

Such examples are to be found in Australian government jurisdictions where the Commonwealth Government acts against the position of various states by vetoing a large development or over-rides states to impose a program or policy regime. At the same time this is juxtaposed with processes such as harmonisation, policy diffusion, lesson-drawing and policy transfer—processes that are likely to increase policy acceptability and authority. Tasmania's position as one jurisdiction in a Commonwealth federation leads, one might expect, to numerous examples of convergence of policies. The extent to which this occurs is touched on in Chapter 5 but a typology of convergence follows here to provide a theoretical basis to what will come later.

Policy convergence is a phenomenon described in comparative policy literature. It must be conceived, according to Bennett (1991), as a dynamic process so that what is described is not merely similarity of policies. Convergence is a process and not a static description of comparable policies at a particular time. Bennett (1991) fashions taxonomy of policy convergence at a mid-scale level. On a large scale, "convergence" has been applied to a notion that social and economic factors converge across post-industrial societies; however, Goldthorpe (1984) argues that contrary to convergence theory, industrial societies are either moving towards corporatism or dualism. Bennett (1991) describes five different types of policy convergence, summarising them as convergence of policy goals, content, instruments, outcome, and style. Bennett (1991) further identifies four processes of convergence and these are shown in Table 2.

Table 2: Four processes of policy convergence identified by Bennett (1991)

Convergence through emulation	• Not the same as diffusion (the latter is more spatial and structural) • Should not be inferred without "evidence of conscious copying, lesson-drawing or adaptation"(Bennett 1991:220) • Doesn't explain policy outcomes or styles • "Evidence of learning is not evidence of emulation" (Bennett 1991:222) • Can occur at different stages of the policy process
Convergence through elite networking and policy communities	• International "issue networks", "policy communities" or "subgovernment" (Bennett 1991:224) groups of actors share expertise and information • May allow lesson-drawing through professional networks
Convergence through harmonisation	• The need for a common response by governments is understood to be needed so bad inconsistencies or adverse consequences don't occur • International regimes are a powerful influence for this type of convergence
Convergence through penetration	• Governments are forced to act for the sake of conformity with actions taken elsewhere • Much occurs as a result of global business pressures (i.e. a business sector demanding a uniform regulatory framework for its products)

Australian policymakers might be expected to form an interest, at least at a theoretical level, in policy processes in other federations. This relates to interjurisdictional policies and convergence. The open method of coordination and laboratory federalism in the European Union offers potential for policy learning and innovation in a "multi-level system of jurisdictions" (Kerber and Eckhardt 2007:227). Laboratory federalism allows learning through dispersed experimentation with new, different policies. The open method of coordination relies on benchmarking and policy recommendations from a central high-level jurisdiction. Learning problems resulted from limited transferability and where incentives were distorted or lacking. That the open method of coordination "should become an integral part of laboratory federalism, thus supporting the smooth working of yardstick, interjurisdictional and regulatory competition" (Kerber and Eckhardt 2007:227) is echoed in this study (see Chapters 5 and 6). Nationally consistent guidelines for policy are considered ideal because they both set a minimum standard as well as allowing for policy innovation.

The concept of policy learning has become more general since the 1950s because of the many interpretations of what policy learning actually constitutes. Decision

theory discussions in the 1950s tended to favour adoption of gradual improvements to policy—successive approximation (or Lindblom's incrementalism), on the basis that adjustment of some variables in a gradual way allowed some control over the direction of policy development. The concept has since morphed into a number of different techniques and tools, one of which is the "policy transfer" approach whereby apparently successful or innovative initiatives are adopted in other places. Bennett and Howlett (1992) discuss the difference between experiential policy learning that involves a normative (narrative or descriptive approach) and the instrumental approach that is linked closely to concerns that goal attainment will actually improve practical outcomes. Bennett and Howlett (1992) argue that several different explanations of policy change based on aspects of learning have emerged under the general label of policy learning to challenge conventional so-called conflict-oriented theories. Such theories supposed that social pressures and conflicts played out in the public arena acted to force passive governments to make a policy response (Nordlinger 1981). The principal explanatory theories and their main authors are listed in Table 3.

Not all the elements of the above theories are compatible but Bennett and Howlett (1992) argue that:

> [C]ertain conceptual, theoretical and methodological difficulties attend any attempt to attribute policy change to policy learning, but this does not detract from the important re-orientation of policy analysis that this approach represents. (Bennett and Howlett 1992:275)

Table 3: Types of Policy Learning

Type of learning	Principal authors	Defining characteristics
Policy learning	Heclo (1974)	A broad concept. Who learns? What is learned? Similar to policy transfer.
Policy-oriented learning	Sabatier (1988)	Enduring changes in thinking and behaviour resulting from experience and reflected in revised policy objectives.
Lesson-drawing	Rose (1988)	Program changes are effected by policy networks searching for different policy instruments.
Social learning	Hall (1993)	A fundamental type—concerns thinking behind policy goals. Paradigm shifts are sometimes involved.
Government learning	Etheridge (1981)	Government officials seek process-related lessons to effect organisational change.
Technical learning	May (1992)	Focus on finding new policies to fit existing objectives and a focus on operational aspects of policies.
Conceptual learning	May (1992)	Focus on new objectives and new ways of identifying problems.
Political learning	Heclo (1974), May (1992)	Actors learn how to be better policy advocates.
Organisational or Institutional learning	Huber (1991)	Focus on the institutional arrangements that promote or restrict learning.
Instrumental learning	Bennett and Howlett (1992), May (1992)	Concerned with processes or instruments, techniques and policy design.

The perspective of policy learning depends on the questions: who learns? What is learned? And what are the results of the learning? (Bennett and Howlett 1992, McGill 1973). Anyone who has any influence over policy choice may do the learning, may be the answer to the first (Fiorino 2001). In regard to the second, means and instruments are included as matters learned and goals can also be learned. The results of learning must be some kind of policy change.

Policy dissatisfaction stimulates a learning response that, in turn, leads to a search for solutions (Rose 1991). A learning approach posits policymakers as active in pursuing and synthesising ideas, information and analysis to generate options (~~"l~~esson-drawing"). This co-exists with what can be explained by the conflict-oriented approach that would see government policy as being subject to pressure groups and establishment interests from within public and political spheres. Fiorino

(2001) points out that the distinction between learning-based models and conflict-based models are not necessarily clear cut and it is accepted that conflict has a bearing on policymaking. Learning can indeed be a product of political conflict. A focus in this thesis though on conflict, power and influence would divert attention from the substantial constructive learning that occurs within policy systems.

The role of "reflexivity" in environmental policy is important particularly while recognising the need for "continuing initial reflection on the policy process" (Glasbergen 1996, cited in Fiorino 2001:324). Reflexive evaluation has been used commonly in natural resource programs in Tasmania (see Chapter 4). For example, the Forest Conservation Program was evaluated in terms of spatial distribution and extent of priority forest areas reserved (Pricewaterhouse-Coopers 1999) and cost, an evaluation that subsequently led to replacement of the program by an improved model (Tasmanian Government 2007).

It is worth now examining different types of policy learning. Glasbergen identified three types of policy learning as technical learning, conceptual learning and social learning. These three types are fundamental and are described more fully below and are quoted from Fiorino (2001:324):

> Technical learning consists of a search for new policy instruments in the context of fixed policy objectives. Change occurs without fundamental discussion of objectives or basic strategies. Policy makers respond to demands for change with 'more of the same' kinds of solutions that they adopted in first responding to environmental problems: more regulation, oversight, and enforcement.

Given Fiorino's characterisation of technical learning we can see ample evidence in Australia of piecemeal environmental regulation to address specific symptoms with scant evidence of integration throughout much of the nineteenth and twentieth centuries. Indeed, this is consistent with Fiorino's (2001) observation that "(c)omparative analyses show that most Western nations initially approached environmental problems through technical learning" (Fiorino 2001:325). Australia and its antecedent colonies have been consistent with this observation. Examples will be seen in Chapter 3 where an historical analysis of Tasmania's vegetation policy was conducted to discern the extent to which learning might be carried forward from one period to another. Technical learning can be seen as a naturally earlier stage in environmental problem-solving.

Conceptual learning however, can be summed up as:

> … a process of redefining policy goals and adjusting problem definitions and strategies. Policy objectives are debated, perspectives on issues change, strategies are reformulated. New concepts (pollution prevention, ecological modernization, sustainability) enter the lexicon. (Fiorino 2001:324)

An example of conceptual learning in the Australian context is perhaps illustrated in the shift from public land reservation to protect vegetation (at least in south-eastern Australian states in the 1990s) to a plethora of new instruments favouring private stewardship of native vegetation on private land. There was recognition that governments did not have all the expertise or means to effect appropriate land management for vegetation, and there was an opportunity for private land custodians to contribute to a social goal (Binning and Young 1997). The manifestation of this in the Tasmanian context is revealed in Chapter 6.

Social learning on the other hand is focused on the interactions between actors. While it can build on the concrete empirical lessons from technical learning, as well as the strategic reorientation that happens with conceptual learning, it emphasises the type and quality of communication among actors. In examining the foundation of US environmental policy, Fiorino argued that its foundation is in technical learning. Typical characteristics are problems and policy strategies being defined by symptoms instead of causes, compartmentalisation and lack of policy integration, most common instruments being prohibitive regulation and hierarchical relationships links between government and society. Interestingly, when he observed the separation of environmental goals from other goals there was an assumption about the irreconcilability of economic and environmental goals and the inevitability of conflict.

The early 1980s, a politically traumatic period for environmental policy, inspired the shift to conceptual learning. The need to set priorities, the fragmented policy landscape and the overemphasis on control rather than prevention helped to encourage the shift. There was an important new perception that environmental and economic goals need not be conflicting (see ESD discussion in Chapter 5). Resulting from dissatisfaction with legalistic and adversarial processes US policy reflected a similar shift that included a search for integrated strategies and a use of consensus-based processes. The scale of problem definitions also changed,

characterised partly by attention shifting from national to global levels as well as to novel policy instruments. Interestingly, in respect of the latter, information has been used as an explicit policy instrument.

During the 1980s some European countries were absorbing conceptual learning but in the 1990s social learning came more to the fore. This involved a fundamental shift on the part of policymakers. Kingdon (1984) suggested that the policy and problem streams led the shift to conceptual learning in the 1980s, rather than the political stream, but nevertheless the core of the learning model suggests the ability of policy actors to adapt to new knowledge and lessons gained through feedback and experience (Fiorino 2001). Integration of conceptual and social learning in the US required both redesign of the regulatory system and an improvement in the quality of dialogue (Fiorino 2001). Arguably, this reflected the predisposition in the US of looking to the Scandinavian countries for the most looked-to models for public policy. Fiorino makes the point that social, and to a lesser extent conceptual learning also reflects aspects of the ~~"n~~ew governance" in public policy administration, including an emphasis on partnerships and networks.

Detecting such shifts in the current study is going to be more likely in looking at historical sequences in the developing policy landscape. This will be part of the focus in the state sphere in Chapter 3 and in the national sphere in Chapter 5. Shifts to social learning have been characterised as indicating a structural openness, a cooperative model of implementation, recognition that there are not always clear answers, and an acceptance of uncertainty (Glasbergen 1996.

In Australia, significant feedback and learning opportunities were incorporated into the ecologically sustainable development (ESD) process in the early 1990s (Hamilton and Throsby 1997). In their evaluation of what they describe as a policy experiment, Hamilton and Throsby (1997) describe the background, implementation and aftermath of the ESD process. Touted as one of the most significant policy advances in this field (Dovers 2003), the process has been examined in terms of its promise of adaptability and policy learning. The promise of the ESD process itself perhaps failed to deliver the chance for adaptation and learning because of another major failing—that of lack of persistence as an ongoing policy process owned and

resourced by government. Dovers (2003), however, dissects the ESD process to find out what was learned by whom.

Sustainability principles in natural resource management require continuing monitoring, evaluation and feedback of both the policies themselves and the on-ground impacts of those policies. This implies a stable but reflexive policy environment. This learning process is dealt with later in this chapter. Sometimes though, what might be called focusing events (or exogenous or endogenous shocks in the terminology of some policy theory) occur to force lessons or new understanding.

In fact, some empirical studies in public policy have been based on the proposition that learning arrangements and focusing events both play key roles (Busenberg 2001) in shaping policy development over a period of time. Learning has already been widely acknowledged in its importance, but Busenberg argues that the learning approach is often coupled with lesson-drawing through focusing events. He uses the crises of major environmental accidents, in this case oil spills, to show how policy can be developed for hazard management systems in a relatively short time frame. This type of system was clearly posed to illustrate the process because the goals of the hazard management system are clear and everyone is focused on the same outcomes (i.e. avoiding hazards and minimising the risk of their occurrence). It is a system in which ―learning arrangements can be linked through an observable chain of events in the policy process to enhancements in safeguards against system hazards" (Busenberg 2001:174).

A similar focussing event is demonstrated through recognition of a ―weed crisis". Foxcroft and Freitag-Ronaldson (2007) examined the institutional learning involved in dealing with weed invasions in Kruger National Park over seven decades. Concerns about alien plant threats were first raised in 1937 and in subsequent years there were control and eradication efforts, but these were countered by unwitting introductions through tour guides and plantings of invasives around tourist camps. A review in 1997 revealed that weeds were a grave threat to the biodiversity of the park. The review provided an opportunity for the park management to internalise the experience gained throughout the period. Documentation of weed control efforts was made providing ―an institutional memory and record of learning for future

managers" (Foxcroft and Freitag-Ronaldson 2007:165). Adaptive management was advocated and involved establishing and tracking activities and results through a database, providing resources to tackle the problems, and settings of objectives that must be monitored.

This example touches on the question of who learns? Clearly, heavy dependence can be placed on institutional memory and the documentation of this. In the case study addressed by this thesis, the question is an important one because of the small size of the Tasmanian bureaucracy (in absolute terms), and the concentration of institutional memory in a small number of actors. It is a question revisited in Chapter 6. Being the smallest state within the Federation may actually make it more vulnerable to exogenous shocks and some of the major policy directions set by the Commonwealth (and discussed in Chapter 5) might well be interpreted as having a similar effect.

The relationship between technical, conceptual and social learning is clearly illustrated in a US example that could actually serve as a template for understanding the potential for resolution of such commonly occurring scenarios.

A concrete example of policy learning being applied to management of a wildlife resource is found in the work of Lauber and Brown (2006). Their study examined the policy challenges faced by public and community organisations in suburban and peri-urban areas across parts of the US where deer herds cause problems through close proximity with human populations. Many communities currently manage deer populations through partnership arrangements involving community groups, government agencies, NGOs and other stakeholders such as hunters. This process, called co-management, has the potential to reduce conflict and ~~"l~~leads to more efficient management by improving coordination, compliance, and flexibility" (Lauber and Brown 2006:411). As might be expected, it also operates at different levels of effectiveness across the country, depending on the different strength of advocacy coalitions and the attitude to methods of control, particularly hunting.

Among Lauber and Brown's objectives were the identification of ~~"c~~hanges in deer management policies and policymaking that can be attributable to learning" (2006:414), comparison of the role of policy learning in different kinds of

communities, and the exploration of technical learning, conceptual learning and social learning (Fiorino 2001). Interrelationships through stages of communities' involvement in addressing the problem were also explored. The authors selected six study sites and used semi-structured interviews including a series of open-ended questions, as well as document analysis. At most of the study sites, Lauber and Brown found that social learning was the precursor to conceptual learning, which was in turn a requirement for meaningful technical learning. They found their results initially contradictory to those of Fiorino (2001) and Glasbergen (1996), who proposed that environmental policymaking in the US usually had technical learning as the starting point, followed by conceptual learning and then a social learning phase. However, Fiorino (2001), according to Lauber and Brown (2006), was not arguing that these types of learning had to be sequential but that technical learning had to be integrated with the other two types.

It is apparent, however, that there is not necessarily an inconsistency or contradiction here. Fiorino is studying policymaking at a vastly different temporal scale to Lauber and Brown. In the latter case there is some analogy with local groups adopting the same mental approach to problem-solving adopted by an individual. In other words, people talk about a problem and discuss various facets of it, following which there is canvassing of all the options for dealing with the problem. Finally, there is the fine-tuning and adoption of the best instruments and policies according to what has proved workable in similar situations. Examining the evolution of policy at a national historical scale will understandably commence from dissatisfaction with the instruments and policies already in place. There may be attempts to adjust and fine-tune these. There is a period of reflection and casting the net wide in respect of options for policy development. This is then followed by public involvement and the social learning involved in scoping policy options.

Various characteristics of human communities can make the learning more complex, and Lauber and Brown (2006) suggested that wildlife managers needed to be aware of the different levels of learning and recognise that social learning was a fundamental starting point. This is germane to policy development in Tasmania, especially the development of the RFA where public engagement in stages of the process was attempted (see Chapter 6).

The tension that might arise between technical learning within a bureaucracy and the promotion of social learning is relevant in this study. The extent to which public participation in policy analysis should occur and the dilemmas arising are illustrated in an example from the US (Walters *et al.* 2000) where comparison is made in the public participation process between two issues in the US state of Utah. One concerned the expansion of listed wilderness areas under *The Wilderness Act 1964* and the other to deal with the issue of population growth. Significant differences in the ways the public was involved led to different outcomes. The review process for the wilderness assessment merely entrenched advocacy group opinions and continues to be a publicly divisive topic. Walters *et al.* (2000) also raised the issue of information and confidence in data. The wilderness data contributed by the state had methods that were open to criticism and hence the role this data played in contributing to evaluation of policy options did not generate any confidence. These authors advocate the anticipation and resolution of public involvement prior to the participatory process. They propose a matrix tool that would assist in the design and implementation of public participation strategies.

What the above study demonstrates is that the social learning process needs to be carefully managed to be effective. The frequent wariness encountered among public policymakers in engaging public participation is no doubt based on examples of where the process has merely caused expense, uncertainty, delay and disillusionment rather than advancing any agreed public policy options. As we have seen from Lauber and Brown (2006), effective ways of incorporating social learning into a process of policy learning are important in the development of the other stages of learning: the technical and conceptual learning phases. In Australia, the development of the ecologically sustainable development process was consistent with this aim through involvement from the outset of a range of stakeholders and experts on a number of working groups. The temporal relationships between technical, conceptual and social learning deriving from a US study (Fiorino 2011) may well have a broad parallel in Australia.

The early 1970s in the US might be characterised as a period of technical learning. While there was technical and legal proficiency there were also problems that arose through narrow problem definitions, institutional fragmentation and conflict arising

from an adversarial approach between policy actors. In the 1980s there was a new search for fresh goals, strategies and policy instruments, a stage of conceptual learning. In the 1990s a new interest in social learning took root in the US following trends in European environmental policy. Social learning depends on communication, education and interaction among policy actors. Integration of conceptual and social learning have had mixed results in a policy system that is still heavily designed around technical learning.

Most studies of policy learning concentrate on the learner through application of the questions who learns? What is learned? And to what effect? To these questions, Bomberg (2007:248) adds the questions "who's teaching, what, and with what effect?" She uses the case of ENGOs in the European Union, examining them as teachers and the influences of their equivocal attitude to new policy tools (new environmental policy instruments or NEPIs). Bomberg's study is of particular interest because Australia has a wide range of active ENGOs that clearly influence what is "taught". The principles from the European study are possibly transferable to our own shores. Bomberg (2007) classifies a range of policy instruments, which are then arranged in a hierarchy of enthusiasm from the perspective of the ENGOs. This hierarchy is derived through content analysis of documents and interviews. The three types of learning happening in the accession states and the teaching mechanism that characterises each type are summarised in Table 4.

This study found that ENGOs began with a cautious and ambivalent approach to the new environmental policy instruments (NEPIs) in contrast to actors outside the ENGOs. ENGOs therefore had to deliver a very complex and subtle message that was basically hemmed in by a conviction in the three key principles of (a) polluter pays, (b) the precautionary principle (Weale 1998), and (c) sustainable development.

A second major factor in limiting the influence of ENGOs is that they preach to the converted and do not enjoy access to powerful policymakers and officials. In Australia, the influence of such groups as "teachers" in the policy realm will be varied but it has not been well explored. Some powerful and large groups exist. There is a blurred line between lobby groups (The Wilderness Society) through organisations that combine lobbying with policymaking and teaching (World Wide

Fund for Nature) to those that provide almost entirely seminars, training and information (Australian Network for Plant Conservation) or ―political learning" in Blomberg's typology. Additionally, in the EU example there is much competition from private consultancies and other NGOs among others, to shape new policy and practice in EU accession states.

Table 4: ENGOs and NEPIs: Teaching mechanisms in EU accession states (adapted from Bomberg (2007)

Learning type	Teaching mechanism
Political learning Training and capacity-building	Organise and sponsor workshops and training sessions; provide information booklets
Instrumental learning Shaping instruments	Lobby Commission, European Parliament, businesses; organise conferences and working groups on specific instruments
Social learning Shaping policy climate and the policymaking process	Build public awareness; ground NEPIs in wider principles; widen and reform deliberation process

Bomberg's analysis reveals that:

> . . . . most teaching is done not by environmental ENGOs alone but by a network of other actors, most of whom enjoy better access and resources than do ENGOs. It follows that the dynamics of ‗learning' and ‗teaching' in the EU, while often presented as a non-coercive alternative to old power struggles (Rose 1991), often reflect some of the same competitive struggles and disparities as do traditional modes of policy-making. Studies of policy learning thus need to be placed in a broader context of policy-making structures, a conclusion often neglected in the policy-learning literature. (2007:263)

The influence on ENGOs on vegetation policy is, beyond the explanation here, not within the scope in this present study although from the above European example it will appear to have great potential as the focus of an analysis in this country. Throughout this thesis there are many references to ENGOs as significant policy actors. It will be useful to have Blomberg's characterisation in mind when encountering the references to NGOs throughout parts of this study.

Prior to the latter part of this chapter, with a discussion of the importance of evidence-based policy development and then of evaluation and adaptive management, I will argue that some other policy analysis methods will be particularly relevant in understanding the development of policy and the changes in its institutional processes and political context over time. Much of the material

presented in this thesis is historical in nature and is examined to generate lessons to inform the development of a new vegetation policy framework. These methods therefore relate to how events are portrayed and understood in a temporal sense, and what causes institutions and policies to change, be adapted or abandoned.

These areas of policy theory are broadly those that deal with historical analysis of policy, policy and institutional change theory, and what may be referred to as path dependency theories.

A method of policy analysis that looks at a discursive analysis of different advocates' claims in a policy debate, and regards scientific knowledge as contestable, has produced some interesting perspectives on particular issues (Fischer and Forrester 1993). For example, Ockwell and Rydin (2006) convincingly describe the positions of various actors in the debate over landscape burning in Cape York Peninsula. The hollow gloom cast by the theoretical basis of this type of analysis must be rejected. This is that science is values-laden and itself no more than a "story-line" (Ockwell and Rydin 2006:383) given equal weight with any other story-line. As a descriptive technique in particular case studies, the approach may have some use but it is probably a destructive approach to policy analysis because it denies the opportunity to develop empirically tested theory and knowledge built through adaptive management and different types of policy learning.

A more useful approach for narrative policy analysis was demonstrated by McBeth *et al.* (2007) who attempt an integration of the traditional policy change theory approach and the approach by the post-modernists called narrative policy analysis. This approach used numerous documents and interviews to identify over an eight-year period, how different strategies were used in the policy debate. They concluded (that) "narrative political strategies are a vital source for analysing policy change" (McBeth *et al.* 2007:104). While these strategies contribute to theory building, it appears that they have taken a technique from narrative analysis, made their data collection and analysis more rigorous, and grafted the technique and results into the theoretical framework of policy streams, advocacy coalition frameworks and punctuated equilibrium framework.

Of even greater relevance, the concept of path dependence as discussed in various theoretical and empirical studies will provide potentially useful insights in understanding some of the aspects of this thesis. The concept is interpreted inconsistently (Greener 2005) but basically applies to the notion that history constrains policy options and institutions in the sense that change is unlikely unless in response to endogenous or exogenous shocks. The result in a policy sense is periods of continuity or stasis or punctuated equilibria. Rooted in historical institutionalism, the concept indicated that political or policy processes resemble ―punctuated equilibria" with change occurring at ―critical junctures" (Collier and Collier 1991) or in ―policy windows" (Kingdon 1995 or 1996) to interpret the normal inertia.

Institutional analysis frameworks are another policy analytical approach, although not absolutely discreet from other approaches. Eccleston (2007) discusses the difficulty of separating out such an approach from others, including policy learning, in the completely different arena of taxation policy. Uses the convenience of a heuristic division of exogenous policy change and endogenous policy change, he refers to the ―references, power and strategies of political actors" (Eccleston 2007:21) as well as the role shocks and crises play in influencing policy. While acknowledging their importance he recognises the influence of what may also shape policy in post-crisis politics as well as the significance of gradual adaptation and policy-learning approaches. The focus is on how actors behave in their institutional context and their potential to ―adapt, learn and evolve" (Eccleston 2007:24). In endogenous policy change, he examines what constitutes policy failure and argues that feedback and policy-learning theories should support evolutionary explanations. Endogenous change is often actor-driven in agential space. Eccleston (2007:28) invokes Hall's (1993) subdivision of such policy change into three different levels. First-order change merely comprises policy fine-tuning. Second-order change comprises major experimentation with new policy instruments, while in third-order change an underpinning intellectual framework in a particular policy area is questioned.

The growing corpus of work focusing on the nature of institutions and public management and public policy processes overlaps with the topics that concern us

here. Researchers of public management reform have rarely addressed their work to the larger community of researchers tackling questions about institutional and policy change, but public management reform is relevant to students of policy change (Barzelay and Gallego 2006). Barzely and Gallego examine the relevance in public management reform literature to the study of institutional and policy change concluding that:

> Drawing on Kingdon's (1984) theory of non-contentious policymaking, we regard focusing events and policy spill-overs as additional kinds of agency mechanism. Organisational learning, as conceived by Levitt and March (1988), is yet another kind. (Barzelay and Gallego 2006:552)

Institutional change is linked to path dependent studies. Many scholars explain radical institutional changes through exogenous shocks. Even the internet has been characterised as an "exogenous shock, where the material resource base of a policy network" (Rethemeyer 2006:259) is altered allowing a potential (but unsuccessful) challenge to "structural power holders" (Rethemeyer 2006:259). Mahoney and Thelen (2010) make the case for gradual transformation through endogenous developments being significant and consequential. Streek and Thelen (2005) classify patterns of institutional change and four distinct modes are identified. Displacement occurs where there is removal of existing rules and the introduction of new ones. Policy drift occurs with the changed impact of already existing rules due to shifts in the environment. That is, the rules remain the same in the formal sense but a new context shifts the impact of their rules in a significant way. Conversion occurs where the existing rules retain their formal sense but are reinterpreted and implemented in novel ways. This type of policy change may benefit actors who are able to exploit the inherent ambiguities of institutions.

The point made by Streek and Thelen (2005) is that both exogenous and endogenous factors can play a part. Path dependency indicates that constraining features of existing institutional and policy designs is determined by displacement, layering, drift and conversion. The particular methods favoured being largely dependent on whether status quo defenders have strong or weak veto possibilities and whether there is a high or low level of discretion afforded to actors in interpreting and enforcing existing rules.

The concepts of Streek and Thelen (2005) can exist alongside the more commonly invoked model of punctuated equilibrium, characterised by long periods of institutional stasis interrupted periodically by an exogenous shock that opens up the policy landscape allowing changes to occur. This is the critical juncture or the policy window. There are apparent examples in the present study and in Chapter 4 they are evident in the sudden shift at the beginning of the Environment Period and again at the inception of the RFA. Chapter 5 illustrates several examples of this but the point is that all these concepts provide some explanatory power when looking at a narrative or historical view.

This chapter now concludes with a discussion of evidence-based policy, monitoring and evaluation and adaptive management. Policy learning can be diffuse or difficult to quantify, often manifesting in greater experience and knowledge about what will work, or within a policy community about events or processes to avoid or embrace given past experience. There is a whole dimension of the learning process that relies on measurement, data, and evaluation of that data. Learning is expected to be direct and unequivocal. It may be evaluation of policy effect on the ground that then leads to feedback and adaptive management. Policies themselves may be found to require attention as a result of empirical examination of their effect. For all the evidence available, learning and subsequent translation into better policy measures does not necessarily *always* follow.

Evaluation is a core part of enhancing accountability and performance in government programs (Sanderson 2002). Despite the challenges to evidence-based policy as a manifestation of rationalism, scientific inquiry and the realist tradition in social explanation provide a strong basis for analysing social policy. In the UK the then so-called Cochrane Collaboration looked at evidence-based improvements in aspects of healthcare, while the same process was adopted for social and educational policy under the Campbell Collaboration. Evidence-based policymaking and progress driven by a scientific approach have been directing UK political culture in the last two decades as the relevance of research, performance measures and results-oriented management signals a major shift in management approaches. This was a new approach to government, part of which was characterised by joined-up and strategic policy that is forward-looking and

responsive. The European Union efforts to integrate and reconcile policy across a broad range of sectors also provide a contextual imperative to focus on policy learning.

For this approach to work, Sanderson argued that two forms of evidence were required. The first was evidence that government was working effectively—that there was accountability in the policy or performance results. Performance indicators measure these against set targets. The second was evidence about how effectively policies and programs were working in different circumstances. This is about knowing how policy settings and interventions actually effect change (Sanderson 2002).

The quest for effective governance and interactive governance requires ―reflexive social learning informed by policy and programme evaluation" (Sanderson 2002:1). The evidence base should not be concerned only with the subject of policy, but should look at focusing on an understanding and evaluation of the theories of policy and how policies achieve their effects.

The UK government, at least, has asserted that ―what matters is what works" (Sanderson 2002:8) and has sought to demonstrate what works by using evaluation programs and pilot projects. These mechanisms have become more common in NRM within Australia. The ―biodiversity hotspot" program, for example, was initially trialled and evaluated before wider application. Sanderson argues that this piloting is actually ―prototyping" (2002:1) and that a greater emphasis is required on theory-based evaluation and understanding policy effectiveness using multi-method approaches. Significant methodological challenges are posed in evaluating effectiveness of policy. Longitudinal studies with a mix of quantitative and qualitative analytical methods are required. Multivariate analyses of factors including processes, contextual aspects and changes in cultures and organisations will help all to understand how policies have worked to improve performance. Policy conjectures must be rigorously tested and better understanding of the problems and needs will benefit the policy response. We expect that ―fundamental research can be seen as complementary to better theory-based evaluation, providing the basis for clearer and more specific elaboration of hypotheses for testing in

evaluation research" (Sanderson 2002:20), which will help to offset the limited understanding we can have of causal inference.

The factors affecting adoption and implementation of performance measures at local and state government level has been empirically tested (Lancer Julnes and Holzer 2001). These authors regarded the use of performance measures as involving a two-stage process comprising adoption and implementation, and noted that quite often the measures might be adopted and not implemented. Where this is an almost expected outcome by organisational policymakers, it is referred to as ~~"s~~ymbolic action" (Lancer Julnes and Holzer 2001:696). They also noted that there was usually enthusiasm and wide involvement at the adoption stage of accepting performance measures. When it came to implementation of such measures there were fewer enthusiastic players and there were more implementers who were unhappy. They discovered that policy adoption is driven by factors coming out of a rational/technocratic framework, which considers things such as resources, information, goal orientation and external requirements (i.e. being able to show the public that performance is high). By contrast, a political/cultural framework, including internal political processes such as the formation of ~~"in~~terest groups and coalition, bargaining and side payments" (Julnes and Holzer 2001:696), affects implementation. Implementation was mostly successful when the implementers owned it.

Policy learning derives more and more from evaluation and monitoring, both of policy advice itself and also policy outcomes. Evaluation and monitoring is now being integrated as part of the policy cycle in natural resource management programs in Australia. The monitoring and evaluation framework for NRM indicators is a prime example. There is a real need to understand whether the considerable investment in NRM funding is working, how it is working and where and why. The lessons learned from such monitoring and evaluation would be expected to feed back into policy development in a demonstration of the evidence-based policymaking.

Evaluation, of course, requires data, its collection, analysis and subsequent evaluation. Evaluation and monitoring at program and policy levels have become more important in the last decade in the natural resource management sphere and it

is instructive to examine the associated theoretical aspects, especially as a part of policy learning. Reporting under the Natural Heritage Trust (NHT) program, for NRM values, traditionally concentrated on outputs such as number of reserves created. Annual reports of the National Parks and Wildlife Service (Tasmania's main conservation agency at the time) in the 1970s and 1980s show that reporting occurred on the basis of achievements and outputs that were not related to any explicit planned outcomes. However, it is difficult to judge the progress of vegetation conservation gains when outcomes are not measured or targets and milestones illustrated. Activity could continue happily for years with demonstrably busy activity and any number of outputs. The shortcomings of this approach have been well documented (Vedung 1997).

Adaptive management does guide much scientific work addressing environmental problems (see Chapter 6). For example, the carrying capacity for hikers on national park tracks has been studied in respect of impacts on vegetation in Tasmania and this has then resulted in changes in policy at the local to meso level (Parks and Wildlife Service 2004). The adoption of the adaptive management concept, of course, can be used at a variety of scales. It can be applied to policymaking itself, where the process is viewed as an experimental one that lends itself to ex post scientific analysis.

Adaptive management is a characteristic of policy evaluation where systematic data collected on

> the activities, characteristics, and outcomes of programs for use by specific people to reduce uncertainties, improve effectiveness, and make decisions with regard to what those programs (or policies) are doing and affecting. (Patton 1989:14)

The role of scientific assessments in environmental decision-making was examined by Herrick and Sarewitz (2000) who concluded that predictive scientific assessments had limitations in ex ante policy formulation, but that rigorous scientific assessments are very valuable in ex post policy evaluation. This is attributed partly to the use of ―scientific uncertainty" (Herrick and Sarewitz 2000:309) as an excuse to avoid difficult decisions in an atmosphere of hotly contested argument. These authors argue for the adaptive management model as a more effective framework for incorporating science into environmental policy.

Sustainable NRM and associated positive behavioural change increasingly requires a social learning component (Muro and Jeffrey 2008). Stakeholder engagement and learning embody significant principles influencing policy success. This is well illustrated by Measham (2009) who uses the evaluation process in the implementation of a dryland salinity management program in Western Australia. He incorporated principles of flexibility, integration, group deliberation, feedback and iteration into the evaluation process, using the process as a social learning exercise. In this way, the evaluator and the land managers work together to understand what works in managing salinity. Social learning is especially suited to complex environmental problems and using evaluation as a vehicle for a social learning process produces a more reflexive process. It is the foundation on which technical solutions can be used.

The work by Measham (2009) demonstrated how, with agreement by all participants, a shared vision could be implemented and developed. Its success depended on a number of factors including group deliberation, skilled facilitation and the flexibility to adapt the program in the light of the evaluation outcomes. The success of this exercise answers the question posed by Conley and Moote (2003) as who evaluates? These authors support collaborative processes and venture some prerequisites for this type of evaluation. While other authors (Bellamy *et al*. 2001) conclude that evaluation can be a social learning exercise, the typical approach has been a logical reporting approach removed from participants. This discussion has a bearing on Chapter 6 where monitoring and evaluation will be seen to be a largely ~~"t~~op-down" approach in Tasmania.

Policy evaluation can therefore be a necessary adjunct to policy learning in a policy cycle. Policy transfer is prospective analysis that assesses a program or policy prior to its installation in another place. Despite a large literature, few systematic comparisons have been made of problems or strategies carried out in a policy-transfer practice. A set of rational criteria have been erected by Mossberger and Wolman (2003) that cover: scope and adequacy of information, similarity of problems and goals, assessment of program performance in the originating country (or we could say state jurisdiction), differences in setting, and application. As might be expected, there are potential pitfalls as well as lessons that might arise under any

of these headings. A process called ―mixed scanning" Etzioni (1967:385) can constitute the first step in any policy-transfer exercise. In this way a scoping exercise would mean a look at a range of policies in a range of places and situations to find a short-list of prospective policies. Some recent Australian examples described later in this thesis exemplify this approach, biodiscovery policy a case in point. The criteria of Mossberger and Wolman (2003) could provide a framework for this first step. Therefore, policy learning need not just occur in a linear fashion through adaptation or reflexivity of existing policy. Learning from other jurisdictions can play a major role leading to policy transfer.

Any policy analysis focused on a policy theme will include some consideration of the sectoral integration. This will be true of vegetation or natural resource management policy as in any other theme. Studies of policy integration may use different terms including policy coherence, policy consistency, cooperation, or policy collaboration. Some of these terms certainly describe the desired outcomes of joined-up policy and probably arose in the 1960s and 1970s during a paradigm of ―rational synoptic planning" (Challis *et al.* 1988). In transport and land-use policy in the UK the concern of policy integration was ―the management of cross-cutting issues in policy-making that transcend the boundaries of established policy fields and do not correspond to the institutional responsibilities of individual departments" (Stead 2003:334). This approach emphasised policy integration, which was more fundamental than policy coordination (OECD 1998).

Despite some progress, transport policy and land-use planning had not become joined-up, despite policy recognition of this requirement to fulfil the government's integrated transport strategy. Stead (2003) concluded that this failure stems partly from the barriers to coordination existing between departments and different professions. The issues relate to narrow perspective, lack of management mechanisms, and professional and departmental culture. Stead identified how successful coordination also depends on the ―intersectoral and interpersonal" (2003:344) skills of involved practitioners.

Closer to the policy domain of this thesis, European forest policies and coastal management have been used (Howlett and Rayner 2006) to test the application of what are termed natural resource new governance arrangements (NRNGAs). This is

applied to an environment that combines ―new policy goals, objectives, instruments and settings in what is intended to be a _coordinated' and _cohesive' way" (Howlett and Rayner 2006:168). A public policy environment will often develop in an ad hoc way with instruments and programs stacked on top of each other (policy layering), existing instruments altered (policy drift), and existing policy instruments being redirected towards new policy goals (conversion). All these processes cause difficulties. In general, NRNGAs are ―designed to _reduce the number of counter-productive policy instruments often found in existing policy mixes" (Howlett and Rayner 2006:169). They can be effective at meeting public policy goals in an era characterised by greater need for international integration, yet also one of ―reduced state capacity or autonomy" (Howlett and Rayner 2006:170). They finally, ―rely more heavily on the involvement of private actors in both policy formulation and implementation than do earlier strategies" (Howlett and Rayner 2006:170).

Numerous NGOs have apparently flourished in natural resource policy areas. In the holistic approach multiple problems rely on processes that guide the input of many actors. These processes include steering committees, advisory committees, reference groups and ways of mediating conflict—protocols and guidelines may be examples. There is a problem in that while NGOs can be anchored in the general framework idea of sustainability, resource policy development is still marked by conflict and disagreement over theory paradigms, common problem definitions and entrenched sectoral approaches.

Prior to the first stage of the Australian Natural Heritage Trust there was funding for environmental programs in discrete programs and funding initiatives coming from separate Commonwealth government departments. Research, or rarely, environmental actions were achieved without any mechanism for feedback in the system or learning. Lesson-drawing by different agencies was serendipitous and might occur through communication in professional symposia, conferences, field days or journal articles, but there was no systematic mechanism for learning transfer. It is worth remembering though that Walker (1994) pointed out the limitations of conceiving great public bureaucracies simply reacting to outside forces and pressures and not being active agents of policy change. The influence of

public servants, policy specialists and consultants themselves is underestimated if such an approach is taken.

The marshalling of environmental programs under one banner called the Natural Heritage Trust was a first step in Australia to getting evaluation, targets, policy evaluation, lesson-drawing and integrated policy responses to what, in many cases, were complex environmental problems that crossed a number of professional fields. The context of this in intergovernmental relations is discussed in Chapter 5. In this sense, the principles examined by Stead (2003) in tackling integrated transport and land-use planning in the UK might be examined to see whether they apply just as well to Australian environmental policy.

If learning from monitoring and evaluation fails within a program, then at the next level, that of program review, a further learning opportunity is presented. The opportunities, whether realised or not, that arise from process and program review is illustrated in the policy-learning opportunity provided by the evolution of the NHT Program through successive stages (Crowley 2001). Crowley's paper, prepared shortly after a Commonwealth–initiated mid-term review of the NHT program, examines its problems and achievements. That review contained, among many recommendations, strong criticism of the lack of appropriate evaluation and monitoring thereby crippling any attempts to gauge effectiveness of the program. Crowley therefore, while applauding the program as being politically savvy and a move in the right direction, claims the policy-learning opportunities have been lost because no measure of on-ground effectiveness of the NHT program is available, and is therefore flawed as a demonstration of effective federalism.

There is no doubt that in the most recent iteration of NHT program delivery that monitoring and evaluation have been prominent. The negotiations for the next round are in progress as this is being written and the entrenching of a thorough monitoring and evaluation framework is likely to loom large (Blair Wood, Director, National Land and Water Resources Audit, pers. comm., 20th February 2007). Australia's *State of the Environment Report for 2006* (Beeton *et al.* 2006) was critical of the lack of indicators that were consistently measured across the nation however. The authors of the report considered that this hampered their evaluation of

change across a number of themes, including natural resource areas such as vegetation.

This problem crosses a number of social themes. For example the need for a ―new ecological approach" (Barling *et al.* 2002:556) to UK food policy, which had been previously dealt with in disparate policy areas was highlighted. Initiatives that sought a more integrated approach could even end up being contained in a particular public policy area that was defined by particular sectoral interests. This is known as policy confinement. Barling *et al*. (2002) point to certain Scandinavian countries that had developed a joined-up approach to public health and a sustainable food supply through introduction of a national food policy council whose task was to provide integrated policy advice.

Despite the contemporary recognition of the importance of in-built learning provisions in the policy development process the potential for politics to override process should be borne in mind. This is illustrated in some recommendations arising from the review of the biodiversity provisions of the *Forest Practices Act 1985* discussed in Chapter 6. Australian natural resource policy and learning failure was pointed out in *The Age* editorial of 10 February 2007. The policy learning failure coincided with an Australian Government announcement of a major water package, which had not been assessed by experts or relevant government department officers and was purportedly developed as a short-term policy announcement. The editorial claimed that ―political advisers around the Minister and the politicisation of the public service have long affected the integrity of policymaking" (Anon. 2007:10). This is a claim that suggests little in the way of policy learning and accords with the ―political power, conflict and influence" model suggested by Simeon (1976) as his dominant paradigm for public policy.

Behind all this is the omnipresent desire by all policy actors to claim a policy success. This field of public policy is more complex than it might at first appear but a comprehensive treatise on the topic by McConnell (2010) presents a clear explanation of all the aspects of policy success and failure. This is achieved by segmenting success into process, program and political dimensions (Marsh and McConnell 2010) and then characterising degrees of success on a spectrum from failure at one end through precarious success, conflicted success to durable success

at the other end. Success is also a partly constructed complex and the framing of success indicates who is able to claim policy success.

2.3 The Policy Learning Approach as an Analytical Framework

Different methods of policy analysis are of use at particular periods or for particular purposes. For example, the conflict-oriented approach has been pre-eminent in early policy analysis in Tasmania because the nature of the targeted issues, by their intensity, has generated such an approach (Davis 1980). The early or pioneering nature of the analysis tended to be through critical analysis of existing systems. Historically, this follows the same path of an individual‘s attention to a serious problem. The initial stages are marked by realisation that things have gone awry, then by criticism of the possible breakdowns in policy perceived as contributing to the problem. Much later there is a more critical reflection that is based on examination of what went wrong and the possible remedies.

This chapter has not deliberately set out with the intention of making any contribution to the theoretical policy analysis literature, but rather to use these theoretical perspectives to explicate some of the patterns and threads across this policy domain in Tasmania. The purpose has been to give some theoretical grounding for the subsequent chapters. In particular the historical narrative treatment of vegetation policy in Tasmania in Chapter 3 will benefit from reference to path dependency theory, paradigm shifts and learning theory. Chapter 4, in describing the nature of the current framework, will benefit from the theoretical perspectives previously mentioned as well as understanding the role of epistemic communities and institutional change. The changing role and influence of the different tiers of government on vegetation policy, dealt with in Chapter 5, will amplify some particular phenomena very well, especially policy layering.

While the advocacy coalition framework approach is much more than policy learning and comprises other components, it is a useful construct supplementary to others through which to view aspects of the development of environmental conflicts. The constructive approach of policy learning lends itself to the more mature stages of a policy debate where constructive lessons need to be learned.

Little time and resources are available for the luxury of mistakes where similar management regimes have been attempted elsewhere.

This thesis refers most often to policy learning concepts but reference will be made throughout to the range of policy analytical concepts discussed in this chapter. It is recognised that these different theoretical concepts are often not mutually exclusive but really different perspectives from which to examine policy issues. The proposed vegetation policy framework described in Chapter 6 will result from reflexive analysis of existing programs and designed to allow monitoring, evaluation and learning

2.4 Chapter Summary.

Policy learning is the principal theoretical framework through which this topic is examined in this thesis, being suited to the exercise by its potential to produce rational empirical and reflexive outcomes. This chapter explains some policy analytical ideas and gives examples of how such theory is used to illuminate actual case studies. The relationship between technical, conceptual and social learning is of particular relevance in the present study. Epistemic communities are likely to be significant in any area of public policy where technical experts have an opportunity to influence policy through advisory bodies and policy principals. It is important to understand that this phenomenon will be present. Temporal analysis in this thesis is foreshadowed by an explanation of path dependency logic and institutional policy change insights. Care is required in defining contingent points, shocks and paradigm shifts in path analysis, but a type of punctuated equilibrium model is likely to provide good explanatory power in Chapter 3 and Chapter 5 in particular. Policy learning in a managerial and bureaucratic sense will be woven through the analysis but the many dimensions of learning illustrate the opportunities to make nuanced interpretations of policy development motives. Finally, an explication of policy learning revolving around monitoring, evaluation and adaptive management is given. There are significant opportunities for social learning even in the evaluation phase of natural resource management programs. This leads naturally to how success is defined, and a framework for making such judgements is given as a basis for understanding some of the material presented in Chapter 6.

CHAPTER THREE

FROM AXE AND FIRE TO BIOPROSPECTING: A HISTORICAL PERSPECTIVE ON THE DEVELOPMENT OF TASMANIA'S VEGETATION POLICY LANDSCAPE

3.1 Chapter Aims

This contextual chapter aims to examine the history of vegetation policy in Tasmania from European settlement through to recent time to detect any distinct periods that might be characterised by particular policy activity. The degree to which policy learning is carried forward will be identified. The extent of any influence from external governments will also be indicated. This chapter aims to provide a sound historical and contextual basis for more detailed discussion about recent and current vegetation policy development.

3.2 Introduction

In this chapter, the historical development of vegetation policy in Tasmania in the period since European settlement is outlined and given some context. This provides a background for the more contemporary analysis. This treatment is prefaced by a discussion of the pre-European (or pre-1750 as it is termed here for reasons that are explained below) vegetation management by the Aboriginal people.

Dovers (2003:3) claimed that "environmental policy and management suffer from *ad hockery* and amnesia" in Australia. To see whether this holds true specifically for vegetation policy and management, an assessment is made of the extent to which there is lesson learning has been carried forward through each of the periods. Evidence that would also be contrary to "ad hockery" would be any evidence of joined-up government, policy transfer, policy convergence, harmonisation or any of the processes that indicate a deliberate attempt to improve policy through a thoughtful approach that draws on local or external lessons.

This chapter searches for the extent to which there might have been a conscious or designed evolution of policy based on lesson learning. This is done through a narrative treatment of vegetation policy with the identification of periods that might

be characterised by particular features of the policy or policy-related context. The main Tasmanian events and issues are critically evaluated with frequent references to the contemporary situation in other states and from a national perspective. Evidence for learning from previous periods will be assessed, as well as a determination made whether contemporary lesson-drawing from elsewhere is evident. The development of this chapter will involve cross-references to policy analysis theory, in particular, policy learning.

3.3 Pre-Industrial (Pre-1750) Pyrogenic Period

The delineation of the first period is clearly marked at its termination by the settlement on the island of a European population that rapidly changed the face of the island and imposed a new dominant paradigm. The Aboriginal population had managed vegetation and the purpose here is to explore any transfer of skills or knowledge to the new paradigm. The nature of pre-European vegetation in Australia has implications for the present vegetation policy and land management. Prior to European occupation the vegetation was subject to human influence by Indigenous people. The vegetation as it was prior to European impact is considered to be a baseline against which various changes are measured in current vegetation monitoring and reporting processes (National Land and Water Resources Audit 2007). The year of 1750 is a nominated divide between pre- and post- industrial revolution in Europe (Stanton 2003) and is a date used in European literature in discussing impacts on the landscape on either side of a significant turning point in European history.

The 1750 date was used in some of the Regional Forest Agreement (RFA) studies as it was conveniently close to the 1788 date of the first year of settlement on Australia‘s eastern seaboard. Since its use in the RFA, there have been different conventions adopted in different states. The term pre-1750 is also somewhat interchangeable with pre-European, but in the Northern Territory the concept has less meaning because of the continuing significant influence on the vegetation of extensive areas by the Aboriginal people.

The nature of pre-1750 or pre-European vegetation is difficult to determine, and its character is the subject of empirical work from palynological studies and from more

speculative reconstructions. The character of the pre-1750 vegetation has direct implications for current policy where conservation status of vegetation uses the JANIS criteria for forest conservation reserves (ANZECC/MCFFA 1997). The JANIS report arises from a Forests Policy Statement Implementation Sub-committee of the Australian New Zealand Environment Conservation Council and the Ministerial Council on Forestry, Fisheries and Aquaculture. The reserve criteria include guidelines for reservation of old-growth forest and wilderness and biodiversity. These criteria include a need to calculate vegetation types remaining as a proportion of the pre-European or pre-1750 extent. The three main elements of the criteria are: comprehensiveness, adequacy and representativeness.

Tasmania‘s pre-1750 extent of vegetation types, first calculated for the RFA studies, used a combination of expert opinion and modelling. This resulted in a tabulation of areas of each forest type occurring in each bioregion (Tasmanian Public Land Use Commission 1996). The data are recognised as having the potential for great improvement because of the considerable refinement in the understanding of extant vegetation patterns over recent years. The most reliable data undoubtedly emanates from studies such as that carried out by Fensham (1989) for the Northern Midlands. There is great scope for such studies that combine historical evidence, interpolation from existing vegetation patterns and by inference given an understanding of the fire patterns.

Some fundamental questions about pre-1750 data are still being debated. The outcomes could have a major influence on the direction of vegetation management and policy, depending on whether or not vegetation management aims are directed at creating a pre-European landscape. For example, Flannery (1994) argues that profound changes in the vegetation were occurring subsequent to the migration to the Australian continent by Aboriginal people around 40,000 years ago (Cosgrove *et al*. 1990). However, Jackson (1999) put forward his evidence for a human colonisation of Tasmania going back to as much as 160,000 years. Flannery argued for significant changes to more pyrogenic vegetation being caused by the human hunting to extinction of the megafauna species. Others such as Bowman (1998) proposed that Aboriginal people were reinforcing existing natural patterns. In Tasmania there is evidence that fire was a ubiquitous part of the landscape in

historic and prehistoric times with historical accounts full of references to widespread fire. Evidence about fire in prehistory is deducted from first-contact ethnographic references, as well as from empirical palaeoecological data.

No new data layer using new knowledge about pre-European vegetation has been developed since the RFA to help in reassessing the reservation status of vegetation communities. If it were to be carried out, the appropriate methodology would be the subject of active discussion. There is no current proposal to update the pre-1750 vegetation data for Tasmania and, in fact, a case could be made against preparing it at this time. This is because the existing status of vegetation communities, percentages of pre-1750 extent remaining, and reservation targets, are all calculated on the basis of the information originally prepared for the RFA, and subsequently by the Comprehensive, Adequate and Representative Scientific Advisory Group (CARSAG). It is therefore possible that reporting will continue to use this old data for some time on the basis that shifting the baseline will cause more confusion than is likely to arise simply by using an old baseline.

There is evidence that vegetation was being modified if not managed by Indigenous people, with results that are still to be fully understood. In some parts of northern Australia government programs actively encourage the traditional fire management practices. In Tasmania there is no evidence of any continuing Aboriginal fire management that carries forward from pre-European time. The effects of pre-European fire management, however, remain imposed on the vegetation landscape in the vegetation patterns and boundaries.

For current vegetation management and policy, the ~~"e~~lephant in the room" is this: do we manage the extant native vegetation to maintain existing patterns or do we attempt to retrieve the Aboriginal vegetation patterns? If we do the latter then the supposition is that fire will need to become a much more ubiquitous part of our landscape and sharp ecotonal boundaries will probably become common once more. Or do we attempt to regain the pattern of vegetation that was supposed to have existed prior to human invasion of the land about 40,000 years ago? The effect on the policy landscape would be significant, regardless of the decision, because it could mean an environment subject to much more active fire intervention through suppression, fuel reduction, habitat burning and protection burning. There are

certainly many issues about fire and its role that are conflated with vegetation management. These include public sensitivity to bushfire smoke, the extent of vegetation thickening, fire control versus hazard reduction burning, and the effect of different fire regimes on total biodiversity. Historical information provides some context, but evidence from the physical and palaeoecological legacy of this period carries policy implications.

3.4 The Colonial Development and Exploratory Period (Up to 1901)

The beginning of this period is clear and its termination no less so. I have chosen the date of the establishment of the Australian Federation as a significant watershed because it began the path towards nationhood and the establishment of the tiered system of government in operation today. The implications of the respective policy reach of state and national governments are important. It can be argued that significant strands of the subsequent policy path developed that were contingent on federation. This will be discussed in Chapter 5. The year of federation also falls more or less midway between the two markers of the rise of professional forestry. These were the establishment of a Conservator of Forests in 1885 on the one hand, and the report to the Legislative Council on the status of *Callitris* forests in 1911 on the other. During the period from 1750 to 1901, the vegetation policy landscape in Australia was sparse and its development has paralleled the changing perceptions of the mostly European population since 1788. There were government policies requiring vegetation clearance and conversion. These policies were enacted through conditions on land grants or leases, and through encouragement in taxation system measures. Initially, grasslands were sought for pasture and prized timber species sought for construction, furniture and other purposes. This underpinned two of the important primary industries that were to develop over the next two hundred years.

Pastoralism initially relied on the maintenance of native pastures, principally grasslands dominated by *Themeda australis* and *Poa* spp. This industry influenced Australia‘s landscape, social perceptions and political economy. The impetus for what might be construed as vegetation policy issues arose from the perceived needs of pastoralists and the keen wish by polity to ensure that the once most profitable sector of the economy was kept happy. Weed invasion was seen as an early threat to agriculture. For example, there was an Act to prevent the spread of Californian

thistle in 1878 (42, Victoria, No.2) that compelled private and public land managers to cut down these thistles. An early biosecurity initiative was the proclamation of The Vegetation Diseases Act 1898 (62, Victoria, No. 21). This was ~~"a~~n Act to prevent the introduction into Tasmania of Diseases, Insects, Fungi, and other Pests affecting Vegetation". It is clear that the early parliament of Van Diemen's Land was concerned about conservation, however this related primarily to animals rather than flora or vegetation. Hence there were Acts to restrain kangaroo hunting in 1846 (10, Victoria, No. 6), in 1860 to protect native game during the breeding season (24, Victoria, No. 19) and also to protect black swans (24, Victoria, No. 20).

Timber-getting has been an important sector of the economy in eastern and south-western Australia from earliest settlement and has had a profound effect on vegetation policy. While the *Waste Lands Act* of 1858 encouraged the clearing of forests, the power to set aside Crown land for forestry purposes, including conservation, was initiated in 1881. The next major policy instrument was an Act to ~~"p~~rovide for the Care, Management, and Control of State Forests, Timber Reserves, and other Crown Lands, and for other purposes" (in year 1885:49, Victoria, 36). This allowed for the making of regulations. The Conservator of Forests was charged with:

> the management and control of all Waste Lands of the Crown which may be reserved to Her Majesty for the preservation and growth of timber, or for places of public recreation. (Section 2, 49, Victoria, 36)

A principal purpose of the regulations was to be:

> [F]or the care, protection, and management of all state forests and public reserves and of all places of public recreation of which the care and control are not by Law vested in some local authority, and for the preservation of good order and decency therein. (Section 3(1) ii)

The growth of the timber industry was rapid and instigated a succession of appointments of forest conservators who were charged with the husbanding of forest resources. The changing public perceptions of the timber industry have led to rapid adjustments in the vegetation policy landscape. The development of forest policy, in conjunction with the development of the timber industry, has been widely documented (Carron 1985, Dargavel 1995, Gee 2001).

The scientific value of native Australian plants was also appreciated by early settlers with many European scientific expeditions charged mainly with the aim of collecting, cataloguing and discovering. Looking for influential premonitions in the writings of these explorers is unproductive. Only much later in the nineteenth century and early twentieth century did some expeditions result in recommendations that would require government or public action. The suggestion that land for the purposes of vegetation conservation needed to be set aside was one such concern. Research and conservation-oriented recommendations were only sporadically taken up. In the nineteenth century there were no systematic vegetation or botanical surveys—only very general ones in the course of searching for sheep pasturage (for example, Brown 1887). Collectors of native seed were known to be active from time to time in the Tasmanian hinterland in the early half of the nineteenth century.

The colonies developed botanical gardens and public domains but the focus was on economic values and public recreation. There is scant evidence of flora and vegetation conservation at the policy and legislative level; although Bonyhardy (2000) has argued for well-developed public perceptions about the value of native vegetation from the earliest days of settlement. The Royal Botanical Gardens (RTBG) was established adjacent to Government House in 1818 with Ronald Campbell Gunn as its first Superintendent. He was active in collecting plants and dispatching them to taxonomists at Kew in London. A collection of locally maintained specimens was housed in the RTBG. The Tasmanian Governor in 1820 requested the botanical explorer Allan Cunningham to bring back some seedlings of Huon Pine from his excursion to Macquarie Harbour. These were to be planted in public places in accessible gardens (Harris and Ranson, in prep). This was an informal vice-regal administrative instruction and the first record of a translocation of a native species deliberately carried out in Australia.

The establishment of botanical gardens in each of the colonies was to prove an important step. They were initially founded to grow exotic plants and distribute exotic seed and cuttings of potentially commercial or useful species. They were also the origin of plant species that escaped into the wild and subsequently became pests. They became centres of botanical expertise and the seat of men and women who began a sustained taxonomic exploration and cataloguing of the native and

naturalised flora of Australia. There were few champions of vegetation and flora who were in paid positions that allowed them to advocate for flora management or protection. One who was in such a position was Baron Ferdinand von Mueller in Melbourne, who made recommendations and public statements aimed at protection of particular sites, species or local stands.

The data gathered by plant collectors provided the basis for a spatial dataset. While some economic exploration of the native flora went hand-in-hand with these activities, it was to prove only a backdrop. An interest in the toxicity of native plants was considered important because of its implications for the pastoral industry (Everist 1974), as was the potential fodder value of various native species—considered important as a bulwark against the depredation of drought on introduced pasture grasses.

This period is marked by production of the earliest policy instruments related to vegetation. They were commercially oriented Acts that established a forestry industry authority, and dealt with weed and plant disease threats. During this period, particularly from the 1850s onwards, there was a growing appreciation of the value of undeveloped areas of bush, at least for recreational value, and the protection of fern gullies. There was even advocacy for the cessation of ringbarking (Bonyhardy, 2000). In retrospect, it was during this period that the pattern of settlement was established. Farms were taken up after bush was cleared and pastures were sown. Large areas of timber were destroyed by fires, both wilfully and accidentally lit. The legacy of this period is not to be found in contemporary policy or management initiatives, but rather in the problems and benefits created at the time. The policy and management initiatives are now being realised much later, after the effects on the land were long evident. The benefits are the productive farms and the revenue from timber and farming. However, the problems are the legacy of selective clearing of particular vegetation types, soil degradation such as salinity, inappropriate fire regimes and the introduction of weeds.

No evaluation mechanisms appeared in any public policy processes and the reports to the colonial parliament were likely to have been output or outcome-oriented, without addressing any specified targets. The effectiveness of the various Acts described above is not known and there is no easily discovered record of actions

carried out by government or commissioned officers under these Acts. It is known that, despite the Act to prevent the spread of Californian thistle, the weed is still a problem 150 years later. The Act to prevent the introduction of diseases, insects, fungi and other pests affecting vegetation has not prevented many such organisms being introduced. There is no record of monitoring or interceptions that can allow an evaluation of the Act. There must have been a dawning realisation, however, that as the landscape was changing and the impacts of man becoming more widespread and marked, whatever values lay in native vegetation were not necessarily of any great concern to the government or the community.

The lessons learned from pre-1750 are difficult to isolate and they must be inferred from behaviour and attitudes. It is suggested that early settlers in some areas may have continued Aboriginal vegetation burning strategies. Early settlers may have exploited some bush foods in a limited way, under some circumstances. The lineage from Aboriginal exploitation of native flora to modern agricultural-scale use of those bush foods and other products cannot be clearly demonstrated. Many other products not known to have been used by Aboriginals have been developed in Australia and overseas into commercial and industrial-scale uses with land use and economic consequences. Any of this traditional knowledge across all these activities that might have been transferred to Europeans appeared to decline with the evolving European imprint on the land.

Minimal lesson learning was transferred from the earliest period to the colonial development and exploratory period, although Boyce (2009) touches on the nexus between Aboriginal land management and early shepherding and settler land management in Van Diemen‘s Land. At least the end of this period marked the finish of reporting to Great Britain, a process that was lengthy, cumbersome and reduced the incentives for policy innovation. Lesson learning was dampened because there was not only a lack of evaluation processes but also the ever-present threat of admonition from the Colonial Office for any failures.

3.5 Development Consolidation Period (1901 to 1970)

This period seems to be marked at its end by a paradigm shift that was to widely and fundamentally affect environmental policy. The publication by Carson (19620

and the foundation of the United Nations Environment Programs arising from a meeting in 1972 are just two internationally recognised signposts of this shift. The most significant local marker was the proclamation of an important piece of legislation and the establishment of new institutions (National Parks and Wildlife Services and the Department of the Environment). This was not gradual transformative change in the sense of Streck and Thelan (2005) but something more recognisably abrupt.

No evidence of policy learning appears to have been carried over from the previous period. The use of Acts of parliament with no substantial organisational or implementational backup was carried from the last period into this one. From the outset of this period it could be said that the then influential policy actors in Tasmania recognised that there would be benefits to flow from being part of a federation. This included the Commonwealth's assumption of responsibilities (and costs of) tasks like defence. This might come under the "government learning" of Etheridge (1981) or the social learning of Hall (1995).

The earliest tree conservation measures were recommendations made by individuals trained as forest conservators in Britain or Europe. Scientific forestry was an enlightened discipline from the earliest days and, as pointed out,

> …over two centuries ago, forestry was appreciated as being necessary to sustain the production of timber, to protect river catchments, to harbour wildlife, and to provide for the recreational enjoyment. (Australian Department of Agriculture Forestry and Timber Bureau 1975:1)

Early untrammelled exploitation of forests led to the early promulgation of forestry legislation and the appointment of the early forest conservators. The widespread clearing for agriculture led to the early measures to protect vegetation, but under the guise of water or soil conservation. The *Soil Conservation Act 1938* of New South Wales (NSW) for example, provided for the proclamation of areas of "protected land" where trees were protected. As early as 1929 the South Australian *Crown Lands Act 1929* provided for the dedication of areas for the purposes of nature conservation and protection of natural habitat. Even earlier, the Tasmanian *Forestry*

Act 1920 provided for the declaration of areas for the protection of flora and other scientific values. Cresswell (1999) describes similar measures across the states.

The forestry profession was born out of the realisation that wild forests were being damaged by lack of management. This led to the birth of the profession in Europe, particularly Germany, in the mid-nineteenth century. The awareness spread throughout the world but struggled to gain a foothold in Australia ~~.~~In some parts of the world apparently inexhaustible areas of forest led to this European appreciation (‗multiple use forestry') of forestry being overlooked (Department of Agriculture, Forestry and Timber Bureau 1975:1). Barton (2002) though, has argued that today's' environmental stewardship originated in the Marquis of Dalhousie's Forest Charter of 1855, which created a system of protected forests throughout India. The idea was disseminated throughout the world beginning with the other British colonies on the Australian and African continents.

In Tasmania Colonel Legge, who surveyed the extent and nature of *Callitris rhomboidea* in eastern Tasmania, carried out one of the earliest forest assessments (Legge 1911) and prepared a report for the Legislative Council. The origin of the idea for this report is not certain, beyond the mention in a preface by Legge that he was pleased to forward a report about the issues that he had previously discussed with members of the council. It may well have been at the prompting of Legge himself as he was well connected politically and had a fine collection of trees, including conifers (and indeed a captive specimen of *Callitris rhomboidea*, in his garden at ~~.~~Cullenswood" in the Fingal Valley). He also appears to have been acquainted with the contemporary principles of the forestry profession. This was not surprising for a man with military training. An understanding of timber and its properties was crucial to military engineering of the time.

While the roles of the Royal Tasmanian Botanical Gardens (RTBG) and the Tasmanian Museum and Art Gallery are likely to become more important for vegetation management in this period, they played peripheral roles in the furtherance of any vegetation policy objectives. This is in spite of the importance of these institutions to the history of vegetation science and botany in the state. The herbarium previously held at the RTBG was transferred in 1946 to the safekeeping of the University of Tasmania Botany Department. The collection formed the basis

of taxonomic accounts of Tasmania's flora (Curtis 1963, 1965, 1967, 1969; Rodway 1903), which was fundamental to understanding the composition and distribution of Tasmanian flora.

The development of knowledge of Australia's flora, an essential prerequisite to its proper husbanding, is described in George *et al*. (1999). This demonstrates the close links between the small number of botanists and their institutions that were botanical gardens and universities at that time. Most botanical gardens were centres of taxonomy, an arrangement that continues to this day in most states except Tasmania. The botanical gardens also saw one of their main roles as acclimatisation gardens for exotic flora of use to the colonies. Indeed, the emphasis on economic botany was a reflection of this—either in named buildings or titles of curators. The gardens were also areas displaying examples of the world's floras. Many had herbaria attached to them and this taxonomic expertise complements the curatorship of living collections.

During the development consolidation period there was very little academic study of vegetation (see citations in Reid *et al*. 1999) right through until the end of the period. The accumulation of scientific knowledge about Tasmanian vegetation began to develop rapidly from the beginning of the 1970s. This is demonstrated by the number of scientific papers dealing with the vegetation and flora of the state, according to citations in Reid *et al*. (1999). There was a low level of publication until the late 1960s when the number increased steeply.

The publication of Carson's *Silent spring* (Carson 1962) was part of a re-examination of the values of western society and was symptomatic of questioning across areas such as pollution, conservation, war, urban redevelopment, consumerism, public health, economic growth and agriculture. The dawn of a conservation movement in Tasmania arguably coincided with the proposal to flood the unique Lake Pedder in the south-west wilderness, now part of the World Heritage Area. At the time there were no vegetation policies in Tasmania to prevent this action. There was not even any need to provide an environmental impact statement concerning the inundation. Some informal studies were, however, carried out and even here the botanical input was minimal. WM Curtis described a new

plant species collected from the sandy shore of the lake, but most of the studies were geomorphological and faunal.

Lesson learning began to emerge during this period but was very piecemeal. There was disquiet about the lack of policy instruments surrounding the management of production forest and this lead to the Kessel report, which was commissioned to enquire into various aspects of the forestry department, and through that into forestry matters generally. An enlightened example of lesson learning was the result of Legge's report. A vestige of the work by Legge may have remained as there was a policy in the state forestry agency (Forestry Commission) in the mid-1970s that precluded any cutting or logging of areas that were mainly *Callitris*.

The end of this development consolidation period saw the beginning of a phase of substantial conflict and the land use centric arguments of whether land should be hydro-electric dam or national park, forestry or nature conservation reserves. The government was not set up to consider all aspects of vegetation management and the annual reports of the Scenery Preservation Board or the Animals and Birds Protection Board showed, for example, that vegetation was not considered except as habitat for animals. The Animals and Birds Protection Board commissioned a report on the vegetation of Chappell Island (Gillham 1960) with its purpose to provide the environmental context for shearwater and Cape Barren goose management. The interpretation of policy during this period suited the predominance of traditional views of policy change—government bending to societal pressure. The government was perceived as very strong and authoritative during this period and continued to be so until it collided with the rise of advocacy groups and advocacy coalitions in the 1970s.

In summary, the development consolidation period was characterised, more than anything else, by the impacts of the Great Depression of the 1930s and World War II. Authoritative government in Tasmania (as elsewhere) had a widely acknowledged remit following these events to rebuild society on the basis of strong industrial performance. Responses to these major events overshadowed any propositions for advancing vegetation policy.

3.6 The Environmental Period: The Establishment of the *National Parks and Wildlife Act 1970* to the Establishment of the Natural Heritage Trust 1997

The period began in vigorous optimism under relevant new legislation, new institutions, and a certain resolve to action that had imbued those concerned about management of natural resources. The end of the period is marked by the establishment of the Natural Heritage Trust and the signing of the Tasmanian Regional Forest Agreement. Both were major initiatives signalling critical junctions that fairly abruptly ended a period of moderation stasis conforming well to a punctuated equilibrium model of policy change.

The history of Australian National Park establishment has been dealt with elsewhere and the question here is to what extent were there explicit reasons given for conserving vegetation and plant species? In the Tasmanian context at least, the reservation process and the early construction of a collection of national parks and reserves was driven by scenic reasons, recreational purposes and as habitat for game (Harris and Whinam 1993, Mendel 1999). The explicit vegetation reasons were for rainforest and ferns and these can be seen as iconic features of Tasmania s vegetation. Ironically, there have been numerous features identified as distinctive, spectacular and iconic in Tasmania‘s flora since, including tall eucalypts, bolster heath, Huon Pine forests, King Billy pine forests, Blackwood swamps, and rainforest. The concept of representing samples of variations within different biomes in the reserve system had not become established in practice.

The value of native species for human food, human medicines and as genetic resources for plant breeding have characterised the late twentieth century. The public perhaps dismissively regarded such values until the widespread publicity of ―bush tucker" through television programs, and the general rise of interest in Indigenous culture stimulated some activity in the commercial, academic and research spheres (House and Harwood 1992). During this period, a system of reserves was being established throughout Tasmania, in an example of policy transfer. The dawning of the national parks idea arguably either arrived from the USA (the establishment of Yosemite National Park, the world‘s first, occurred in 1879) or grew spontaneously here as an idea whose time had come. The Royal

National Park south of Sydney, the second oldest gazetted national park in the world was designated in 1879.

In Tasmania, a distinct dichotomy was to grow between reserved land and other land. Vegetation conservation is what happened in reserves, while it was not considered on other land; it was also bound up in the question of land use allocation (Clouser 1984). This period began with an understanding that whatever had been in place previously to protect vegetation values and other nature conservation values had clearly failed. The failure was manifested in land use allocation conflicts that had intensified towards the end of the period. There was recognition that the time had arrived for legislation and the bureaucratic resources to back it up.

The start of the period was also marked by the introduction of legislation modelled on that of NSW. This ―policy transfer" worked well. The period had its birth in the realisation that urgent action was needed on environmental fronts, and was based on the clear premise that previous policy measures for managing vegetation had been inadequate. The beginning of this period was marked by a fundamental shift in societal attitudes towards the natural environment. The consequent shift in government policymaking can be characterised as conceptual learning. The criteria for this are satisfied with the broad-ranging public debates, setting broad goals and new concepts and terminology entering the public consciousness and discussion.

While a paradigm shift occurred late in the previous period, thereby causing a whole range of social and political changes, the changes in the vegetation policy context evidenced learning on a number of levels. The introduction of the *National Parks and Wildlife Act 1970* resulted from recognition that previous Acts were not only narrowly focused but were not effective as they were not supported by an appropriate institutional framework. For example, the *National Parks and Wildlife Act 1970* had provision for protection of natural values, not only through the statutes but also through trained ranger staff to enforce them. The Act also had provision for research and the increase of knowledge about wildlife and flora as a basis for improved management. The absence of such provisions had been recognised as a weakness in previous Acts.

As the period progressed, it became more characteristic of social learning, but still in a limited sense. The Commonwealth environment bureaucracy was in its infancy and dialogue between state government officials and Commonwealth Government officials was necessarily very limited. The policy implications of the relative strength of national and state bureaucracies in natural resource management are discussed in Chapter 5. All state jurisdictions were grappling with their own responses to the momentous changes and even within the state bureaucracy there was a very limited pool of personnel in positions with policy-making influence. Social learning began to gain momentum towards the end of this period as the state and Commonwealth bureaucracies had grown, become established, and had settled into the business they had built around them. The business can be summarised as reservation, research, identification of issues and establishment of some processes. An example of the latter is the national assessment of rare and threatened species. In Fiorino's terms for describing US policy, the characteristics of technical learning still typified most of the period in Tasmania. This was evident most noticeably in terms of the separation of environmental goals from other goals and the legalistic and adversarial relationship of environmental agencies and advocacy within industry and other stakeholders.

With the election of the Australian Whitlam Government in December 1972, a large number of social and environmental reforms began to be implemented. An inquiry was announced into the condition of Australia's natural and cultural heritage, the "National Estate". This was a turning point because it led to some rigorous systematic and regional studies of aspects of the natural environment. The submissions received by the committee of inquiry ranged across a broad scope, only a small proportion of which related to vegetation and flora issues. Australian Heritage legislation, among other initiatives, was introduced as a consequence of the Inquiry into the National Estate (1974). The report covered cultural and natural heritage.

One of the first studies funded under a national program to investigate was a national stocktake of vegetation communities and their reservation status (Specht, Roe and Boughton 1974). This preceded National Estate funding and was part of a general push to carry out a biological survey of Australia, a push largely from the

Australian Academy of Science (Australian Academy of Science 1969). About the same time the National Parks and Wildlife Service was created by virtue of the *National Parks and Wildlife Act 1970*. Investigations staff were appointed and by 1978 the Specht *et al.* report was in use to justify to the minister all acquisitions of land for the reserve system. There was however, no policy, either written, or expressed at the political level, that reinforced this approach. The *modus operandi* was fashioned by the conservation bureaucrats who had scientific backgrounds and proceeded in what they saw was a logical development of a modern reserve system, according to principles espoused by Fenner (1975) and Diamond (1975). The days of collecting pieces of landscape had passed.

Australian vegetation policy is emerging as a nationally driven priority as indicated by the release of a number of key documents since 1996. The most prominent of these include the *National Framework for the Management and Monitoring of Australia's Native Vegetation* (ANZECC 2000). This document set national standards for activity across the spectrum of native vegetation management and policy. The release of this document was followed by an audit of state and national programs and measures for native vegetation conservation and management. This was the first comprehensive audit of state and territory policy, legislative and administrative instruments available to each jurisdiction. The assessment of issues relevant to the states and the means by which they could be dealt with, resulted in a list of challenges for each of the jurisdictions. All jurisdictions, including the Commonwealth, agreed to tackle such challenges in a systematic fashion—to be reflected in work plans prepared by all jurisdictions.

The process was an important step and one with a history of many threads and a future that is yet to fully unfold. An obvious conclusion from an analysis of these reports is the still primitive nature of national cooperation, national consistency, and the very different measures in place across states to deal with vegetation issues. This is the case across almost all issues, except those where the whole issue is Commonwealth-driven for historical or logistical reasons. For example, the measures in place for control of wild flora harvesting are largely driven by the requirement to export product and therefore the need for an export license, which specifies that a Commonwealth-approved management plan must be in place.

During this period some adverse consequences of previous policies affecting vegetation management became evident. Binning and Young (1999a, 1999b) showed that there were perverse outcomes on vegetation resulting from taxation and other measures. The extent of vegetation clearing and conversion was being regarded as the major threat to vegetation and flora values. There is some variation across the Australian states but vegetation (forest and woodland) clearing has been declining since the 1980s (Beeton *et al*. 2006). Broadscale clearance has ceased in Australia as a result of legislation in all jurisdictions. Until relatively recently though, vegetation clearance was considered by ecologists as the most serious threatening process for biodiversity in Australia. The effect of agricultural clearance on conservation of plant diversity was already known through the work of Leigh and Briggs (1992) who assessed the reasons for plant extinctions in Australia.

All Australian state governments began the major challenge to set measures in place to control and contain vegetation clearing as set out in the National Vegetation Framework. The increasing grip on the policy agenda over the states at this time is discussed more fully in Chapter 5. In Tasmania, various options from containing vegetation clearance were canvassed. One of the challenges for Tasmania, as outlined in the Dore report (Griffin nrm P/L 1999), stated:

> The major pressures on native vegetation arise through land clearing and agricultural use of some grasslands and riparian areas. Therefore it is logical…land clearing should be controlled. Assessing the nature and degree of resistance to regulatory controls, and the most effective way to introduce such a system, is fundamental challenge Tasmania is yet to overcome. (Griffin nrm P/L 1999:87)

Another issue that developed in the environmental period from a rational scientific basis was in the management and conservation of threatened plant species. Moreover, broad uniformity across states arose through the early establishment (about 1977) of an Ad Hoc Working Group on Endangered Flora comprising representatives of the state and Commonwealth. Their work resulted in a regularly updated national list of endangered flora. Such activity even preceded the development of threatened species legislation in some states, including Tasmania. The committee applied nationally developed modified criteria that formed the basis of rational policy following the development of threatened species legislation.

Environmental impact statements or environmental effects statements, however, still only bound the Commonwealth under works it carried out and did not apply to most developments in the state jurisdictions. Furthermore, there was no culture of assessment of land for natural values prior to developments. This is illustrated in a letter received by the Director of the Tasmanian Conservation Trust and sent by the then Director of Mines in July 1982. The body of the letter is quoted in full:

> I refer to your letter of 16th July, 1982, and the request that we encourage the exploration company to commission a botanical survey prior to mineral exploration.
>
> I consider your request to be of the utmost impertinence and would remind you that the function of the Department of Mines and exploration companies is to explore and discover our rare and unique mineral deposits and not to engage in botanical surveys.
>
> The Department is happy to cooperate with you in matters of genuine environmental control and concern. However, I would remind you that we have an important function to carry out with regard to the State's economy and I refuse to be frustrated by such unreasonable requests. My policy is to assist wherever I can but I must advise you that correspondence of this nature is a total waste of time and I intend ignoring it in future. (Murchie 1982)

The renewal of the Tasmanian export permit for woodchips led the Commonwealth to engage the state on a series of studies from 1985 that resulted in the Memorandum of Understanding (1988) for woodchip exports. Subsequently, the forest research capability in the state's forestry agency was augmented with plant ecologists, leading to increased effort being invested in ecological and plant conservation work. An interdepartmental Working Group for Forest Conservation was set up to examine the conservation of major forest types (Hickey and Brown 1989). Forestry Tasmania released two policies that bound it in relation to the commercial harvest of two slow-growing long-lived conifers in western Tasmania (Forestry Commission, 1987, 1988). Common approaches thus evolved and, as states put their own legislation in place, much could be learned and directly copied across borders.

In this period we see the growth of advocacy coalition groups. There was also the stirring of major land allocation issues and mobilisation of public opinion that really set up the conditions for the next stage that aimed to be more inclusive of regional priorities and stakeholder involvement. There was a lack of process legislation demonstrated in this period. In fact, Sandford (1990) could have included

vegetation management in her assessment of land conservation funding and policy when she claimed that:

> Federal policies, media coverage and the seemingly bottomless pit of Federal funding for land conservation initiatives have served to focus public attention on Tasmania's land management policies, practices and administration. There is a policy vacuum, fragmented and often inefficient administration, and communication breakdown and overlap between agencies. (Sandford 1990:36)

Hall (1992) discusses the development of park agencies and discovers the roots of the wilderness concept. He also discusses wilderness inventories and declared or designated wilderness areas in Australia. Such designated wilderness areas are few and far between until the 1970s, although the argument is partly a semantic one as wilderness could be adequately protected and managed within other types of reserve categories. The Man and Biosphere reserves are a similar concept. Hall states that the Tasmanian Wilderness World Heritage Area was the work of the Commonwealth, but overlooks the fact that it was a Tasmanian Government initiative (Harris in prep.). Hall then discusses the Convention Concerning the Protection of the World Cultural and Natural Heritage (the World Heritage Convention) in Australia and argues for a wilderness reservation system. He sees a ~~"n~~national wilderness reservation system" (Hall 1992:48) under Commonwealth legislation within a framework of international heritage agreements such as World Heritage Areas and Biosphere Reserves. There is discussion in Hall's work about the relative security and standard of protection afforded by state versus Commonwealth responsibility. Tasmania features prominently in Hall's work, both because of the Franklin dam and Western Tasmania Wilderness World Heritage Area, and because of the strong contribution from the state on wilderness theory (Kirkpatrick and Haney 1980, Lesslie *et al*. 1988, Smith 1977). Hall goes on to debate the conformity of the Register of the National Estate and asserts (1992:212) that national estate listing may have prompted the Commonwealth Government to intervene to stop logging in the Lemonthyme and Southern Forests.

Australian Heritage legislation, among other initiatives, was introduced following a Commonwealth Government Inquiry into the National Estate (Commonwealth of Australia 1974). The report covered cultural and natural heritage but its recommendations resulted, among other things, in funding for studies to identify places important for natural heritage, and environmental impact statement studies

being carried out prior to any Commonwealth works. The Commonwealth Government Environment Agency disbursed Technical Assistance Grants and grants under the National Estate Grants Program that gave priority to funding systematic scientific studies that resulted in the identification of particular areas of importance for some aspect of biota conservation. Examples of natural values studied that are relevant here, include heathland, coastal vegetation, and Sphagnum peatland. Many other sources of nominations were not nearly as rigorous.

In fact, a danger to the value of national estate listings grew as such listings became less site-specific and were attributed to large reserve areas as nominations incorporated areas of low intrinsic value relative to areas of higher intrinsic value. The large areas of low intrinsic value were not necessarily suited to inscription on a register of special sites. The register was becoming conflated with reservation. The reserve estate in the early 1980s was nominated, reserve by reserve for the register and all were accepted. The nomination boundaries coincided with reserve boundaries, regardless of the size of these areas. So the National Estate at least became the equivalent of reserves and was not about special areas or sites within such reserves. There was disquiet in some state government policy circles leading up to the RFA, that the Register of the National Estate was being used by conservation lobbyists to block any land uses other than conservation. Calls for particular areas on the National Estate to be made reserves were being assertively made. Pressure to elevate the status of such areas became reflected in government policy. National Estate forests figured in clauses 12 to 15 of the Tasmanian Parliamentary Accord signed in 1989 (cited in Lamour, ed 1990) between the Parliamentary ALP and the elected Greens Party members who supported Labor in minority government.

During the Comprehensive Regional Assessment process leading to the RFA, a thorough evaluation of sites considered to satisfy National Estate criteria was conducted for the whole of the state. The whole state was the ―region" for the purpose of Tasmania's Regional Forest Agreement (Tasmanian Public Land Use Commission and Commonwealth Forests Taskforce 1997). Areas identified in this process that occurred within forests were meant to be indicative only and not necessarily be put on the register. Interim listing was to occur after the signing of

the RFA in mid-1997. Both registered and interim listed places prior to the Comprehensive Regional Assessment were clearly extensive and obviously designed as broad areas that contained values of interest. The broad nature of these would seem to preclude their interpretation as areas for formal reservation. There just did not seem to be fine enough discrimination in this process.

When the Comprehensive Regional Assessment studies were carried out using extensive consultation and small working groups of specialists, however, it became clear that application of the National Estate criteria would result in broad swathes of country being qualified for registration. This is demonstrated by the series of maps produced (Registered and interim listed National Estate places, Map number 11 In: Tasmanian Public Land Use Commission and Commonwealth Forests Taskforce 1997).

The RFA originated in the National Forestry Statement (Commonwealth of Australia 1992b), which outlined a strategy for progressing forest management through bilateral agreements with the states. A number of authors have examined various policy, political and administrative aspects of the RFAs. For example, the consideration of economic, scientific and cultural values in the RFA process prompted Coakes (1998) to claim that RFAs provided the first opportunity for a forest planning exercise to incorporate social assessment in the decision-making process.

In some respects the ways that RFAs were to be conducted had some parallels in an earlier process within the Resources Assessment Commission (RAC). RFAs were preceded by comprehensive assessments that had a lot in common with the inquiries carried out by the commission in its short-lived existence/. That is, assessment covered s wide range of values beyond the economic. This was the legacy of the RAC (Hamilton 2003) that carried into the RFA process.

The demise of the RAC has been attributed to various causes, summarised by Hamilton (2003); perhaps the most plausible on being the political intervention by Prime Minister Keating to dissolve symbols of his predecessors that represented the consultative style. The National Forests Policy statement, however, carried forward some important elements of the *modus operandi* of the RAC. The principal one was

incorporation of economic, social and cultural perspectives in gathering a comprehensive body of factual knowledge against which the negotiated agreements could take place. The learning carried forward from one process to the next was political and there was recognition that any advance in an area as divisive as forest policy had been (Brown 2001) would require hearing multiple viewpoints and convening a process as recognised as being crucial to success (Mobbs 2003, Buchy and Hoverman 1999). Economou (1996) put the RAC as a bridge between a developmentality era and one much more concerned with environment as a serious policy consideration.

Early scepticism about the likelihood of the RFA process achieving sustainable development was expressed by Dovers and Lindenmayer (1997), who flagged that the promise of twenty-year resource security was perhaps the antithesis of the flexible requirements of adaptive management. This view needs to be tempered with the perspective of Mobbs (2003) who argued that such a time period was a promising advance in policy implementation for ecologically sustainable development outcomes.

Policy learning is demonstrated in the Commonwealth's revision of the process for nomination of National Estate areas. As was shown, the earlier process resulted in lack of discrimination for areas of particular importance for the National Estate. Confusion was present in some quarters about the relative "meaning" of areas designated as reserves and those areas deemed to have National Estate values. This resulted from discussion between state and Commonwealth officials. The result was a complete re-evaluation of listed areas and, more significantly, the criteria on which listings are based. The listing processes and criteria for the Register of the National Estate were subsequently reviewed, resulting in substantial changes. The register as at 2000 was archived and a new register begun, with much tighter criteria definition and more rigorous processes. At least as far as natural heritage goes, the process also seemed to place less emphasis on actual listing and became one as much focused on guiding the public on recognising significant areas through practical conservation planning and management (Australian Heritage Commission 2000, 2003).

It is apposite to conclude our remarks on this period with the discussion above on the National Estate listings. It demonstrates the period well in its obsession with land tenure, with appellations given to land areas, with boundaries, with the ~~"~~wins" out of territory gained either for conservation or development. The management issues of the land and their guiding policies are virtually non-existent. The results of vegetation management policy at the end of this period were mostly about lines on maps and this came at a cost. Developments in the next period were aimed at creating a more multidimensional policy perspective.

3.7 The New Governance Period (1997 to the Present)

The reason for characterising this period separately is based on a new policy milieu, a new governance style in which policy options are considered. The consolidation of the NHT model coincided with a more pervasive business or managerial way of operating in the bureaucracy.

Contemporary government policies, at all levels, appear to be deficient in addressing the expectations of various sectors of the community in vegetation conservation. Policy, in the guise of any of its instruments (for example Acts, statutory policies, intergovernmental agreements, administrative instructions and memoranda of understanding) has also struggled to keep pace with novel problems ushered in by new scientific knowledge and practices, as well as accelerating societal and economic changes. Vegetation policy development has been sparse, patchy and constructed at inappropriate scales. For example, *Dicksonia antarctica* was formerly listed on Schedule C of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) for the reason that it was capable of being confused with certain South American taxa. Prior to its delisting in 2000, problems were encountered in having the Commonwealth accept a management plan under Part 13A of the *Environment Protection and Biodiversity Conservation Act 1999* for export of Tasmanian *Dicksonia antarctica*. A logical intergovernmental process or listing policy had not existed for Australian CITES listings. *Dicksonia antarctica* is fecund and abundant in Tasmania (Neyland 1986). Australia, as one of over 150 countries that are party to CITES, import and export species that are on the appendices of CITES, and include endangered species, and species at risk of endangerment due to inadequate controls over trade. The

Commonwealth has overriding powers over the states where matters of international treaties are concerned. Harvest and export of *Dicksonia antarctica* is now allowed by virtue of a Commonwealth-approved management plan with built-in periodic evaluation and review mechanisms.

A framework for a national reserve system built along scientific principles (Natural Resource Management Ministerial Council 2005) has laid out targets, principles, standards and the requirements for monitoring and evaluation against which continuing assessment of progress in achieving National Reserve System (NRS) goals is made. Overall, thirty-eight directions statements are made with responsible implementing parties nominated, and time-lines allocated. Consistency across jurisdictions and their different reserve nomenclature and legislation is dealt with by agreement on NRS standards, and adoption of an international protected area nomenclature system that allows reconciliation of different reserve types into a single system. Evaluation and assessment is achieved through a State of the Parks report, and assessment against ANZECC best practice standards. Jurisdictions are able to monitor their performance against best practice standards.

We saw in the previous period that broader vegetation management discussion was overshadowed by debates about wilderness boundaries and wilderness conservation and the forestry issues. The extent to which wilderness drove the design of reserve boundaries was discussed by Mendel (1999) and a succinct encapsulation of the cost to genetic biodiversity conservation of the wilderness-driven approach to land reservation was given by Brown and Hickey (1990).

An analysis of the economic and conservation costs and benefits of various South-West National Park boundaries and forest industry access scenarios was carried out by Harwood and Kirkpatrick (1978). Their minimum wilderness boundary closely resembled the current World Heritage Area boundary. They acknowledge the then national park boundary as containing ~~–a~~ large area and a magnificent range of beauty spots and plant and animal communities, are completely inadequate as wilderness boundaries, and omit the Mt Bobs–Boomerang complex" (Harwood and Kirkpatrick 1978:33). The latter area has since been incorporated into the World Heritage Area.

In the late 1970s and early 1980s within the National Parks and Wildlife Service (NPWS) there was an enthusiastic embrace of national and international processes that conferred designations of significance. In this period the NPWS nominated:

- Ramsar sites
- Biosphere Reserves (South-west Tasmania, Macquarie Island)
- The South-West Wilderness World Heritage Area
- Other sites as listed in the report of the Inquiry into the National Estate (see appendix D).

The report of the Inquiry into the National Estate had recommended a focus on international instruments and renewed those that were relevant to the National Estate and their status. The long-term political significance of some of these designations was not completely understood within the state at the time. The motivation for pursuing listing was more on the basis that areas of Tasmania had international significance under various criteria and their listing or inscription under these different processes would be a just and at least symbolic recognition of value.

An enthusiasm by the federal government for focusing on international treaties was not universally shared and a political backlash was to come later. Prior to the development of a whole-of-government approach to public policy issues and the establishment in Tasmania of the coordinating instrument for environmental resource issues—the Environment Resource Heads of Agency (ERHOA)—government departments frequently brought forward conflicting policy positions. For example, the Forestry Commission was designated as the avenue for state government input into the Helsham inquiry, after the state initially refused to become involved in the process. While the inquiry was about determining the world heritage values outside the then WHA, the activity that would be clearly compromised by any expansion of the WHA boundary would be forestry. Rolley (1990) gives a summary of processes and issues from the inquiry—particularly eight points for land managers. Four of these related to communication between state and federal agencies, national policies for coherent land use decision-making, and the extent of federal government and institution powers over land use matters. These themes have carried through to the present as being relevant to vegetation management and are treated elsewhere in this thesis.

An attempt at strategic planning for wildlife conservation was made in 1989 (Bayly-Stark 1989) with the preparation of an all-encompassing strategy meant to provide a framework for goals and policies. Wildlife used in this context referred to both plants and animals, in accordance with the definition of ―wildlife" in the *National Parks and Wildlife Act 1970*.

The Bayly-Stark (1989) document begins with concepts, followed by a listing of guiding principles, then barriers, then obstacles. These are followed by the nub of the document, which is a list of strategies and objectives. It is interesting to observe the coincidence of the strategies/objectives of this document with those in the consultation draft National Biodiversity Strategy (National Biodiversity Strategy Review Task Group 2009). The 1989 document lists the following aims:

1. Adopt a broad concept of wildlife to include habitat.
2. Adopt comprehensive conservation policies.
3. Involve the private sector.
4. Improve the basis for wildlife management.
5. Ensure the maintenance of wildlife habitat.
6. Protect the genetic structure of Tasmanian ecosystems.
7. Maintain optimal wildlife populations.
8. Increase the benefits from wildlife while ensuring its wise and sustainable use.
9. Participate in international conservation.

The document was expert-generated and was to be developed entirely in the bureaucracy, while still purporting to need the ―goodwill and active support of the Tasmanian community" (Bayly-Stark 1989:4). Public consultation was sought by proxy through the views expressed in the Wildlife Advisory Committee and the National Parks Advisory Council. This document can be viewed through the lesson learning lens, despite the paucity of evaluation measures directly tied to the goals

and strategies. Out of 43 objectives, only two of them relate specifically to measures of performance or establishment of measurable targets, although many of the objectives imply the need for measures, for example where maintenance of sustainable populations is invoked. Many of the objectives, however, are very specific and would allow a retrospective evaluation of the success of the objectives proposed in the document.

There have been three principal attempts at policy analysis for vegetation management in Tasmania these being the Regional Forest Agreement, the Native Vegetation Framework Assessment and the Natural Resource Management Framework Agreement. The first of these was the Regional Forests Agreement (RFA) signed as a bilateral agreement between the Australian and Tasmanian governments in 1997, resulted from a Comprehensive Regional Assessment that involved all aspects of the forestry industry including policy settings for the region (Tasmania). The RFA only covers forest and excludes any consideration of non-forest vegetation such as heathlands, wetlands, alpine vegetation and scrub.

Secondly, the Australian Government carried out the Native Vegetation Framework assessment in 1999 with endorsement from the Australian New Zealand Environment Conservation Council (ANZECC). This three-part framework consisted of a principles document that outlined the instruments available for use in vegetation management. An assessment of states‘ progress against implementation of the principles was carried out. These principles, taken directly from the National Framework (pp. 11–12) included:

- Recognition that all vegetation management should be based on the overall goal of Ecologically Sustainable Development which recognises environmental, economic and social values.
- Recognition of the important role of native vegetation in the functioning of ecosystems in maintaining productivity capacity of agricultural lands.
- Recognition that the biological diversity of vegetation should be maintained through appropriate land management practices. These include a suite of measures from environmental protection through to sustainable use and production using best practice management techniques.

- Recognition that vegetation management requires the continuing partnership of government, land managers, industry and the wider community.
- Recognition that where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by:
    - *-careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment;*
    - *-an assessment of the risk-weighted consequences of various options.*
- Recognition that protecting existing remnant vegetation is the most efficient way of conserving biodiversity.

The states' progress was documented under the headings of ~~–a~~chievements" and ~~–e~~hallenges". To the states the assessment, although not intentionally, looked more like a report card than a document reflecting intergovernmental agreement on a way forward in vegetation management. The process was not wide-ranging in scope but dealt with some important issues. One interpretation of its influence is that some policy impetus towards formulating land clearing controls could be attributed to the document.

The Natural Resource Management (NRM) Framework document was the third major policy-related initiative of this period. The NRM Framework document covered two fundamental parts. The first comprised a vision statement, principles and a list of vegetation management outcomes affecting eight themes: biodiversity, soil and water resources, hydrology, land productivity, sustainable land use, natural and cultural heritage, Indigenous peoples and climate change. The second part was a treatment of the best practice native vegetation management and monitoring mechanisms. These mechanisms were dealt with under the following headings:

- roles and responsibilities of government and community
- planning and assessment
- formal reserve system

- communication and capacity building
- incentives
- regulatory mechanisms
- monitoring and evaluation.

The document's significance lay in the clear statement of mechanisms thought to be best able, at the time, to cover vegetation management. It was also a broad attempt to clarify roles of different levels in the hierarchy of government. This was especially important since the establishment of Natural Heritage Trust (NHT) funding, most (but not all) of which was disbursed according to strategic priorities developed through state processes (Australian National Audit Office 1998). The Native Vegetation Framework dealt with preserving, protecting and managing tracts of vegetation in the landscape. The extent to which this approach deals with all aspects of a desirable vegetation policy framework will be addressed subsequently in this thesis. It does not deal with species issues, however, and it does not deal with managing threats including feral pests and biosecurity, nor does it deal with management of opportunities provided by vegetation management such as greenhouse gas abatement.

The NHT bilateral agreements document a framework under which Commonwealth funds are delivered under the Natural Heritage Trust. The framework involves state and local government, the community and the Australian Government in joint investment in, and management of initiatives. The bilateral agreements deal with management arrangements, objectives, capacity building, facilitation and coordination, funding arrangements, monitoring and evaluation, promotion, information management and operation of the agreement. The objectives outlined in the bilateral agreements deal with vegetation management under two headings: forest communities, and non-forest communities. Specific measures are outlined to which the parties agree. These measures are, in effect, a policy framework that is driven by generally acknowledged gaps in the scope of existing policy. The overwhelming emphasis is on maintenance of native vegetation in the landscape. For example, an agreement to extend protection for threatened non-forest vegetation communities, as well as revision of the Policy for Maintaining a Permanent Native Forest Estate had immediate effect. Firstly, particular vegetation types were

protected from clearing by legislation and secondly, the revised policy strengthened the provisions around ensuring that forest clearing and conversion did not go beyond a minimum area of different forest types set for each bioregion.

The origins of these measures were to be found in a national concern about vegetation clearing and conversion. Particular criticism was directed at Queensland, where the rate of clearing between 1997 and 1999 was 4460 km^2 annually, 60% of this occurring in the Brigalow Belt bioregion (Wilson *et al*. 2002). There were no clearance controls preventing the scale of clearing in Queensland. Other states had some form of controls and in South Australia, which had lost 11% of its native vegetation cover (National Land and Water Resources 2001, p. 93) principally in the southern higher rainfall areas, a permit was required even to clear isolated paddock trees, a permit unlikely to be granted without some offsets.

Tasmania was also under national focus because a number of forestry-related issues were conflated into a larger one by environmental activists. The 2002 review of the RFA led to refinement of actions and included recommendations about instituting protection of threatened communities through legislation. The recommendations were reasonably wide-ranging and encompassed most issues that might arise out of embedding a thriving forest industry in a small community (Tasmania) where that industry may have an impact on many other areas and activities. The nearest the 2002 review came to broadscale vegetation retention measures was in flagging the need to progress the review of the policy on maintaining a permanent forest estate.

The principal instruments of policy are identified in Table 5. There are many documents that set out research and management priorities (Vegetation Management Strategy for Tasmania DPIWE/EA 1998, Tasmanian Nature Conservation Strategy 2002–2006), set directions, provide process context or make tools (Thackway and Cresswell 1995) that will assist in implementing aspects of vegetation policy. All these pieces of the historical picture that contribute to the present —native vegetation management framework" are dealt with in more detail in Chapter 4.

Table 5: Principal vegetation policy instruments or framework documents

Instrument	Date	Description
49 Victoria, No. 36	1885	An Act to provide for the care, protection and management of state forests and public reserves and places of public recreation.
National Parks and Wildlife Act 1970	1970	Head of power for looking after flora conservation generally.
Woodchip Export Agreement	1994	Renewal of all export woodchip licences agreement under the Commonwealth *Environment Protection (Impact of Proposals) Act 1974*
Regional Forest Agreement	1997	Management framework for all forests in Tasmania. Reviewed 5 yearly, agreement expires in 2017.
NHT Partnership Agreement	1997	(Bushcare, Farm Forestry Program, National Wetlands Program, Endangered Species Program, National Weeds Program).
Strategic plan for the private land component of the CAR (Comprehensive, Adequate and Representative) reserve system	1998	Self-explanatory title.
Vegetation Management Strategy	1998	A bioregionally based list of vegetation management priorities.
Native Vegetation Framework	1999	A compendium of national best practice principles for vegetation management with supplementary documentation of a jurisdiction by jurisdiction evaluation of strengths and challenges facing each.
Tasmanian Nature Conservation Strategy	2002	An action plan for protection of natural diversity and the maintenance of ecological processes and systems.
RFA Review	2002	Evaluation of progress on RFA recommendations and refocus on actions in progress.
2nd NHT Partnership Agreement	2003	Established in conjunction with an NRM framework and establishment of regional bodies.
Regional NRM Strategies	2004-2005	Prepared as background and guiding frameworks for NRM priorities—a basis for investment proposals.
Community Forest Agreement	2006	Supplement to the Regional Forest Agreement; providing a Head of Power for threatened community legislation and further prescriptions for old-growth forest and other measures.
3rd NHT Partnership Agreement		Under negotiation at time of writing.

The signposts in the development of vegetation policy are laid out in Table 5. The *National Parks and Wildlife Act 1970* made scant reference to vegetation but

allowed enough scope for interpretation of vegetation conservation priorities. When the Parks and Wildlife Service was severed from the Department of Primary Industries, Parks, Water and Environment in a previous restructure of government departments, the *National Parks and Wildlife Act 1970* was split into one dealing with reserves and another dealing with nature conservation. No attempt was made to update those Acts at that time. They were simply teased apart with the intention that they be properly revised in due course. Other Acts have been made dealing with whales, threatened species and one incorporating the protection of priority vegetation types. A review of vegetation policy instruments needs to consider the seamless operation of these other Acts.

In the new governance period, competition among agencies and actors for policy relevance and consequent funding grew. Many in the state service agencies saw that their continuing employment needed to be connected to business plans that emphasised the major and increasing requirements on government to improve vegetation management and biodiversity conservation. During this period, changes were being felt by the botanical gardens professionals who saw their survival being linked with conservation initiatives (see papers in Touchell and Dixon 1997). This was exemplified in their push towards integrated conservation, a term used to weld ex situ initiatives with in situ plant conservation. Perhaps tendentiously, this ignored the obvious usefulness of maintaining ex situ and in situ concepts in plant conservation, but it exemplified the desire to further the aims of the Global Strategy for Plant Conservation, Article 8 of which deals with ex situ measures. The funding squeeze for botanical gardens has seen their administrations attempting to connect with broader initiatives. Flora conservation is one such initiative as is tourism, but this latter measure is unable to perhaps deliver the growth required in the desired directions. For example the Botanical Gardens of NSW could attain revenue requirements for half a millennium by subdividing some of its central Sydney foreshore. This would fund the scientific work of the botanical gardens but would detract from the tourism appeal of the gardens and would be unacceptable to the public. The desire, however, is for promotion of botanical work that horticultural aesthetics for sightseeing is unable to satisfy.

Across Australia, conservation functions in government developed within particular agencies that incorporated the management of national parks and other reserves. Few have survived intact following restructures of government business. Originally, the National Parks and Wildlife agencies dealt almost exclusively with public land issues and had little integrated activity with other government programs. From about the 1980s there was a general move towards integration and consolidation of government programs in larger agencies. In Tasmania, the Nixon report (1997) advocated such consolidation at a time when another trend was also being felt within government bureaucracies—the purchaser/provider model of arranging business. For example, in Victoria, the scientific staff dealing with native flora and fauna were isolated in the Arthur Rylah Research Institute. Policy and program managers for flora and fauna conservation were put in head office to arrange service agreements that set out the nature and terms of the scientific advice that was to be ~~"p~~urchased", at least initially from the Arthur Rylah Research Institute. It was supposed that, eventually, the services might be purchased from any other research group that might provide the same services more efficiently and cost-effectively.

Those parts of Parks and Wildlife agencies with the scientific specialists, researchers and conservation biologists have usually been incorporated in Australia into larger agencies with wider concerns such as primary industries, sustainability, water, climate change research and management, land capability assessment and surveys, fisheries, and forestry. The nature of this transition is marked by some interesting characteristics that are probably better canvassed elsewhere. While the conservation advocacy within government is more submerged within a whole-of-government approach, there is generally also more integration and acceptance of conservation within a whole-of-government agenda and a more heightened awareness of potentially mutually supportive agendas within programs.

At the time of writing, it appears that the delivery of funding for vegetation management within the broader scope of natural resource management will continue to be administered by the Commonwealth Government, through the NRM legislative and policy framework. Arising out of the Council of Australian Governments forum was the requirement of states and territories to establish in their jurisdictions the administrative framework of regional or catchment governance

arrangements and supported by legislation. A continuing strong flow of funding directly to the NRM regions from the Australian Government is likely to remain a strong theme. The nuances of this intergovernmental arrangement are discussed more fully in Chapter 5.

The first stage delivery of the Natural Heritage Trust encountered some problems that included lack of strategic direction or clear priorities at the state level, and projects that suffered from lack of technical advice. There were also projects that did not address NRM criteria but were infrastructure projects being promoted through this funding arrangement by local and state governments. The Tasmanian State Assessment Panel during the first stage of the Natural Heritage Program noted the lack of strategic documents for vegetation, resulting in the funding of two guiding documents (Targeted Initiatives for Bushcare, Vegetation Management Strategy). Furthermore, there was disquiet among some that considerable funding was being dissipated in numerous small projects whose long-term value to biodiversity conservation was difficult to measure. There was a need to evaluate expenditure of funds and the Tasmanian Government arranged evaluation and reporting based on on-ground valuation and anecdotal reporting. The inadequacy of evaluation in the program has already been dealt with elsewhere (Australian National Audit Office 2007). The catalyst for increasing emphasis on evaluation and monitoring was the Auditor-General‘s report (Australian National Audit Office 1998). Subsequently, an ―indicator” working group developed a monitoring and evaluation framework. A separate government authority was driving much of the monitoring information infrastructure. The National Land and Water Resources Audit was the Commonwealth Government authority set up to collate and present information for evaluation and monitoring of programs funded under the Natural Heritage Trust.

During the evolution of the Natural Heritage Trust, concern had been felt in some quarters that investment in vegetation management issues had suffered an unfocused approach and small unrelated and uncoordinated projects were unlikely to make substantial gains. An information paper (Bushcare Program, 1998) addressed the need for targeted investment at Senator Hill‘s (then Commonwealth Minister for the Environment and Heritage) direction. The Bushcare Program

sought some integrating projects and released a tender document calling for "Lighthouse" projects, which were large-scale projects that could showcase a collection of instruments and mechanisms operating together. Such instruments and mechanisms could include such things as on-ground works, incentive payments, agreements, covenants and Land For Wildlife. This followed Senator Hill's direction that funding would be strategically targeted at integrated landscape scale management of priority areas (Bushcare Program 1998).

In conjunction with state officials, the Commonwealth identified priority regions and key issues for Tasmania (Bushcare Program 1998). The key issues were considered to be:

- loss of native vegetation cover through rural tree decline
- loss of native vegetation cover through land clearance
- control of feral pests and weeds threatening biodiversity values
- strategic placement and long-term management of restored or re-established native vegetation.

Priority areas where these issues were to be addressed were listed. The document (Bushcare Program 1998) was attached to an issues paper that summarised the main issues for Tasmania and provided the underpinning evidence for the Tasmanian priorities (The Tasmanian Bushcare Reference Panel 1998). The Bushcare Targeted Investment Discussion Paper made linkages with the Interim Vegetation Management Strategy (DPIWE 1998) and the Regional Forest Agreement Programs. Among the requirements of candidate projects that were to be considered under the program there was clear encouragement to adopt innovative approaches across scientific, social, legal, governmental and financial mechanisms.

The new governance period exemplified the beginning of social learning in a concerted way. The three characteristics espoused by Glasbergen (1996) were in evidence. There was more structural openness or "communicative governance" as the regional model was set up to engage community input into environmental decision-making. It was the end of the "command and control" of the environmental debate by government. An epistemic community has been slowly emerging from the NRM framework with an influence at least on some lower levels of policy,

although policy-relevant knowledge from authoritative actors may be uncommon, as Dunlop (2010) has pointed out. The epistemic communities within the NRM framework are owned, to some extent, by government and therefore their advice is circumscribed and controlled. The NHT was seen as a partnership between the three levels of government and the community. A cooperative implementation model was being forged with each of the policy actions finding their niche. The NRM regions were obviously in the best position to tap into and focus community concerns and priorities. Local government was searching for ways to integrate new concerns into its business; state government sought its role in statewide information management, advice and integration; while the Commonwealth Government set the broad agenda and lubricated the whole process with funding. The acceptance of uncertainty and the adoption of the precautionary principle come to the fore as the previous adversarial approaches moved into the space where there was a mutual recognition that everyone had to work on satisfactory outcomes.

Perhaps this process demonstrated policy layering (Thelan 2000, Hacker 2005) because the change was being implemented through the Commonwealth government seeking to introduce a policy agenda alongside existing institutional and policy frameworks as the state government level. The state government has then been compelled to pass specific legislation (*Natural Resource Management Act 2002*) and examine how its own policies and programs need to change in order to adapt to the new agenda. Thus the existing policy and programs of state institutions were, in some areas, being focused towards satisfactions of the requirements of the NRM regional bodies and the interest they represented. Across many parts of the bureaucracy, confusion about roles and responsibilities has been taking a long time to become resolved. The result is still a sub-optimal operation of vegetation management policy and this will be explored in the gap analysis in Chapter 6. This particular example of policy layering falls within the context of intergovernmental issues and will be discussed in Chapter 5.

The implications for the gap analysis are at least likely to be those resulting from a mismatch of perspectives from both the ~~–o~~ld" existing policies and the new policies.

This period was also characterised by public policy that reflected partnerships and emphasised networks. An interesting theoretical point is worth making for this

period in relation to Sabatier's advocacy coalition framework (ACF) model. He made the point that there was a tendency of some ACFs to change through time as component or individual groups have their direct wants satisfied according to core beliefs (Sabatier 1991). There was a clear example of this in then Premier Bacon's courtship of the Tasmanian Aboriginal Community, subsequently continued by Premier Lennon. In the arguments for more forest preservation, a powerful dissenter was the Aboriginal community who had taken out prominent advertising at the time of an election, in order to align themselves with government policy on forests. They claimed the Wilderness Society and its allies, in an advocacy coalition, were acting against the best interests of the Aboriginal community. This rupture seemed to catch the anti-logging advocacy by surprise somewhat.

3.8 Discussion

Lesson learning from the pyrogenic age remains unresolved from almost any perspective. The Indigenous management of the landscape through fire may have been continued by the European population for some time into the nineteenth century until the skill and experience of using fire gradually contracted with the corresponding diminution of the rural population in the early twentieth century. This needs further examination but it has much explanatory power when also considering the attitudes towards, and practice of, fire management today. These are influenced by largely urban and "lifestyle" rural populations that have a fundamental view that bushfires are destructive.

Another perspective from which there are unresolved questions partly forced by the above, concerns the type of landscape we require and the fire management needed to implement it and maintain it. Fire will modify and change vegetation whether initiated by humans or not. It is evident that a great deal of debate revolves around technical issues about fire behaviour and very little about fire policy. A coherent fire policy that accounts for emerging matters such as carbon storage in the biomass and the soil is required.

The colonial development and exploratory period yielded many lessons that could have been learned but, rather than be triggers for policy implementation, were instead only picked up in the late twentieth century after a considerable lag. Some

policy during the period was promulgated as a result of previous experience in vegetation management undoubtedly from elsewhere in the colonies or beyond. The enactment of legislation that prohibited certain weeds is the best example of this. There is no evidence of enforcement of this legislation and no accessible information discovered that would indicate whether the legislation was effective.

The potential lessons to be learned from this period included a failure to effect actual changes in vegetation management, primarily due to a poverty of government administrative structure. Once Acts were promulgated their enforcement was not backed up by expertise in the public service. There is a lack of evidence for policy development, or any consideration of ways of doing things, such as with different policy instruments or programs. Perhaps of greater significance was that the piecemeal fragments of legislation and the intent behind them would have been overwhelmed by a pioneering spirit of resource exploitation and ~~"t~~aming the land". This no doubt pervasive attitude indicated that the public thought at a primitive level about resource policy and that a social learning process was well short of the maturity it required to meet the resource management challenges of the time. So not only was there an apparent lack of social or conceptual learning, but the most basic level of learning in Fiorino's (2001) typology was not being met.

An early potential lesson that had been partly learned, but not sustained or fully implemented, would cause a compounding problem still being grappled with at present. The reduction in the extent of forests yielded no immediate lessons, because only benefits from this activity were noticed. The practice was encouraged through instruments such as land grant conditions and reward schemes. This continued in various guises well into the twentieth century. Some contemporary opinion was expressed about loss of valuable timber through ringbarking practices and fires. Yet the lessons sought were from a different social and economic imperative—how to effectively convert wasteland or bush into productive land. Only in the late twentieth century have the results of research indicated the need for a different paradigm. Some knowledge was no doubt accumulating during the colonial and exploratory period about the economic values of native vegetation in the form of species useful for toolmaking, food, medicine and other practical products. This was gradually being lost over the ensuing periods, particularly

following the depopulation of the rural areas after the 1930s. The values of native grass pasture may have been evident in early years (Kirkpatrick and Bridle 2007) but management for sustaining these is a mixed experience. Some argue that the expansion of the *Themeda triandra* grasslands of valley slopes and the maintenance of the *Themeda* grassy woodlands and *Poa* tussock grassland on the valley floors is a fine demonstration of knowledge established through observation and then adopted and carried forward through generations. However, the orderly progression and refinement of policy on vegetation was almost entirely absent during this period as the colony struggled to establish itself as an economic entity. This process was inherently contrary to processes that might have existed in Europe, for example, where economies had been evolving over hundreds of years.

The development consolidation period seems to have been characterised by an almost complete focus on economic development and was contemporaneous with a neglect of policy governing natural resource management, with some qualified exceptions. The rise of industrial forestry did lead to some policy development that stemmed from the lessons of the previous period, which was marked by considerable loss of resource through wasteful practices. One example of the recognition of waste was through a report by Legge who complained of the destruction of many stands of Oyster Bay Pine, which was everywhere ~~–s~~wept away by axe and fire" (Legge 1911:7). The lessons learned and carried forward from period to period are indicated in Table 6, where an attempt to type the different learnings is also made. The development consolidation period was also marked by the expansion of infrastructure, whether it was water supply, hydro-electricity development, roads and the expansion of suburbia. These activities were spurred on by the economic growth that followed the two world wars. An important development during this period was the commencement of inventories of natural assets including river flows and discharge, soils, geology and mineral resources and timber volumes and distribution. Work on forest inventory really gained momentum following World War II and was assisted by the inception of systematic aerial photography in 1949. These surveys would lay the groundwork for evaluation and monitoring of natural resource use and management in a later period. During the development consolidation period there was the adoption of vegetation-affected land and resource practices from overseas. These included the national park idea,

the adoption of scientific native silviculture principles, and the establishment of scientific resource inventory.

The almost three decades following the development consolidation period, and which I have called the environmental period, marked the inception of the modern era where policy development was able to become a legitimate and necessary part of the vegetation management landscape. The lessons from failures in the previous history of natural resource use had accumulated to the extent that the period was begun by one of the most important policy instruments of the time for vegetation management: the proclamation of the *National Parks and Wildlife Act 1970*. A major characteristic of policy during this period is the demonstration of policy transfer, beginning with the *National Parks and Wildlife Act 1970,* which was taken from the NSW model at the time. Once the National Parks and Wildlife Service was set up in Tasmania much of the administrative model was also adopted from the NSW Service. Indeed, many staff were recruited from the NSW Service.

We have seen how policy learning has been incorporated into the vegetation policy landscape over the last two decades. Some programs have adopted a technical learning capacity through monitoring and evaluation. Other programs have been qualitatively reviewed at the level of policy effectiveness. When closely examined, there seems to be no common policy framework driving these requirements. A response to an international obligation stimulated the evaluation of management effectiveness in the Tasmanian Wilderness World Heritage Area. The clients for this evaluation were perceived to range from the land manager to the Australian Government to the UNESCO World Heritage Convention bureaucracy.

The new governance period post-1997, in many ways, is marked by a conscious application of public policy principles and is indicated by the number of explicitly described policy officer positions, around 15, in the largest natural resource agency —the Department of Primary Industries, and Water. Although this is only indicative of some of the changes that were happening, it is nevertheless significant. Greater attention began to be given to policy and program processed that implicitly acknowledged the policy cycle. The resulting reviews and evaluations are discussed later in Chapter 6.

The period coincided with the initiation of the 30-year policy framework that was to govern the forest resource. This framework was known as the Regional Forest Agreement and stemmed from the need to put forestry onto a visibly sustainable footing with monitoring and evaluation processes built in. This was to avoid the often bitter debates that raged around forestry matters in the public arena. The period was also characterised by the acknowledgment that vegetation management needed to be subject to monitoring and evaluation, both at an operational on-ground level and at a policy and program level. This was going to require information. The requirements for such information really came to the fore in this period. This was the time of the establishment of the National Land and Water Resources Audit, which was charged with the assembly of national resource information, including vegetation information. A new period had arrived that was information-hungry and in which feedback and adaptive management was paramount. Perhaps the most significant development in this period was the establishment by all jurisdictions, led by the Commonwealth, of the Native Vegetation Framework. This was set up as a means of evaluation of policies and programs in vegetation management.

Towards the end of the Howard federal government (1996–2007) there appears to have been a trend towards intense government consolidation and an increased focus on accountability of program results. This trend, in a national context, will be discussed in Chapter 5.

Vegetation management has been a policy-free zone for much of the period of Australia‘s European history. There were some initiatives promulgated that stemmed from concern at protecting agriculture, particularly commercial species and sites of tourism interest. This was the case during much of the nineteenth century and the major change came with the formation of state governments under an Australian Federation.

Table 6: Policy learning and vegetation management

Period	Evidence of policy learning or other theoretical attributes	Issue/link through
Pyrogenic pre-industrial	Scant evidence of lessons carried into the next stage (except perhaps fire use).	Landscape settings established.
Colonial development and exploratory period 1797–1901	Policy transfer.	• first settler fire management apparently carried on from Aboriginal practice • weed Acts—experience elsewhere in agricultural settings. • forestry inquiries
Development consolidation period 1901–1970	• some lesson learning. Field work by Legge and preparation of report. Science-instigated policy • inadequacy of existing legislation with regard to reserves carried into next period.	*Callitris* management most likely leading to ―no-cutting" policy in forestry coupes in later periods.
Environmental period 1970–1997	• policy transfer • social learning • political learning by advocates.	• adoption of NPWA 1970 based on NSW legislation • public becoming educated about the matters relevant to vegetation policy development within the broader framework of natural resources policy.
The new governance period 1997–present	• social learning • evidence of Advocacy Coalitions. • some policy convergence on national level through ANZECC and COAG frameworks. • monitoring and evaluation built into programs, notably the NHT1 and NHT2. • separate policy-learning evaluation through NVF • technical learning • conceptual learning. • evidence of policy convergence at national levels through evaluation, elite networking and policy communities, harmonisation and penetration.	OECD reports. Dore report. What works and what doesn't on the ground. Adapting to new framework of climate change and carbon management. Nationally consistent guidelines-access to genetic resources.

The massive societal and economic changes throughout the twentieth century had little traction in the policy field until the 1970s, but around Australia there was a dawning realisation that natural resources previously seen as limitless needed to be the focus of some policy attention. Although there are few examples throughout the period between 1900 and 1970, it is clear that policy instruments, and they were mainly Acts and regulations, were devised in response to the needs of a particular industry, whether this was logging or tourism. Resources for managing these instruments were meagre and probably best regarded as token. There was no overarching learning framework. It is argued that the most significant policy framework for native vegetation management throughout these historical periods was firstly in the *National Parks and Wildlife Act 1970*, which was to be later supplanted in policy importance, by the Regional Forest Agreement 1997.

3.9 Chapter Summary

Up until the present, five distinct periods mark the evolution of vegetation policy development in Tasmania, although the pyrogenic pre-industrial period precedes European settlement and is included as a partly speculative baseline useful in assessing subsequent on-ground changes in vegetation. The four post-European settlement periods all display some aspects of policy learning or other characteristics attributable to some policy analytical types. There has been very scant coordinated policy development for vegetation until the environmental period when the *National Parks and Wildlife Act 1970* was promulgated. Serious application of policy principles began from around the start of the new governance period in 1997 when overarching vegetation policy frameworks began to be developed, the most significant for Tasmania being the Regional Forest Agreement.

Having now set an historical context for the development of vegetation policy it became apparent that there were sparse examples of policy-learning transfer from period to period. This provides appropriate background for my description, in the next chapter, of the current structure of the vegetation policy environment in Tasmania.

This chapter has focused on the evolution of vegetation policy, using a linear-temporal narrative approach but with references to aspects of path dependence and

institutional or policy change theories. Some changes between periods are characterised by paradigm shifts while, in other cases, layering is evident. In terms of path dependency there is what appears to be a punctuated equilibrium pattern over at least the few periods after 1970.

The chapter has reflected a story of increasing sophistication and spread of vegetation policy and has not dwelt on what policies were not developed at any time. In contrast, the following chapters describe the policy framework at the time of writing and will necessarily begin to point to the shortcomings in the current policy framework.

CHAPTER FOUR

WHEELS WITHIN WHEELS: THE CURRENT TASMANIAN VEGETATION POLICY LANDSCAPE

4.1 Chapter Aims

Having established in the previous chapter a historical context for Tasmanian vegetation policy the present chapter will document the current vegetation policy landscape and give it a brief policy landscape context. The results of this chapter will provide the context for the gap analysis and the vegetation policy framework proposed in Chapter 6. This will follow a critical analysis of the vegetation management outcomes generated under the existing policy regime. In particular, this present chapter will outline the major policy instruments and policy actors that currently influence vegetation policy. Existing mechanisms for effecting policy will be examined. This descriptive treatment will then provide a basis for observations on the articulation of vegetation policy in the state.

4.2 Introduction

Current vegetation policies are a legacy of the last two hundred years of European settlement. As we have seen in the previous chapter, the majority of the current instruments have been developed only in the recent twenty-five years following a general shift in society‘s perception that there were many environmental-related concerns that should engage more government attention. In Chapter 3 we saw this as a paradigm shift at the end of the development consolidation period (1901–1970). Very little in the way of lesson learning in the broad sense was evident over the first one hundred and seventy years. The subsequent rapid development of the vegetation policy landscape led to many instruments that were responsive to public concerns. Joined-up policy appeared to be lacking.

This chapter is purely descriptive and where the nature of the implementing machinery is explored and assessed in terms of evidence of joined-up policymaking or lesson learning. It will list the principal legislation relevant to Tasmanian vegetation policy, discuss the implementation of policy through the major sectors:

state government, local government, NRM regional groups and non-government actors. The implementation of vegetation policy is illustrated by some examples, and while the chapter is not intended to be an exhaustive compendium of vegetation policy, it will be sufficiently detailed to show the working nature of this area of public policy. From this it should be possible to draw some conclusions that will assist in the subsequent gap analysis in Chapter 6, and then construction of a model framework in Chapter 7.

4.3 Legislation and Other Policy Instruments.

4.3.1 An Overview of Tasmania's Legislative Framework for NRM, Nature Conservation and Environmental Resource Use

Cataloguing the current legislation relevant to vegetation and flora is not straightforward because there are provisions scattered far and wide through the statutes. Some statutes wholly deal with vegetation management in the broad sense, such as the *Forestry Act 1920* or the *Royal Tasmanian Botanical Gardens Act 1995*. Other Acts such as the *Nature Conservation Act 2002* deal with vegetation (flora) among a range of concerns. Yet other Acts do not deal directly with native vegetation management but are directly relevant in that their scope is profoundly linked with vegetation management—one example is the *Weed Management Act 1999*. A fourth class of legislation is not specifically directed at vegetation management but has a scope relevant to one or more concerns of vegetation management. For example, the *National Parks and Reserves Management Act 2002* deals with provisions for managing land—much of which is set aside for flora conservation values, and whose subordinate instruments such as reserve management plans may have prescriptions specifically addressing vegetation management. The connection of the *Environmental Management and Pollution Control Act 1994* is even less directly related and is concerned more with the background environment.

These can be grouped for convenience; current legislation is grouped into particular categories as shown in Table 7a–d. These categories are:

(a) *Managing procedures and policy processes*: encompasses land use planning and approvals, quarantine, seed import hygiene, state policies

and processes.

(b) *Managing a particular resource*: covers forestry, mining, hydro-electricity and threatened species.

(c) *Managing land*: covers Crown lands management, and parks and reserves management as well as local government subdivision approvals.

(d) *Establishing institutions*: comprises the Acts establishing the museums and the Royal Tasmanian Botanical Gardens.

Table 7a: Current Tasmanian legislation relevant to vegetation management: management of procedural and policy processes

Instrument	Description
Seeds Act 1985	Provides for hygiene measures for imported seed and allows some seeds to be declared as prohibited seeds.
Forest Practices Act 1985	Sets parameters for policing the environmental aspects of the forest industry through the Forest Practices Code.
Nature Conservation Act 2002	Wide responsibilities for flora and fauna and geodiversity conservation generally.
Threatened Species Protection Act 1995.	Sets out provisions for listing, conservation and management of threatened flora and fauna.
Fire Service Act 1979	Establishes a State Fire Management Council and determines direction of state fire management policy as a basis for fire management planning.
Land Use Planning and Approvals Act 1983	Provides for preparation of planning schemes and supports the Tasmanian Resource Management and Planning System, which promotes sustainable development of resources and maintenance of ecological processes and genetic diversity.
Aboriginal Lands Act 1995	Grants certain parcels of land to the Tasmanian Aboriginal community.
Weed Management Act 1999	Prescribes responsibilities for land owners in respect of scheduled weeds.
Natural Resource Management Act 2002	Prescribes the structure for three NRM regions and provides for the accreditation of regional NRM strategies.
Local Government Act 1993	Provides for administration of planning schemes and associated measures.
Major Infrastructure Development Approvals Act 1999	Makes provisions in relation to approval of major infrastructure projects.
State Policies and Projects Act 1993	Provides for –Tasmanian Sustainable Development Policies, to provide for the integrated assessment of projects of State significance, to provide for State of the Environment Reporting and for related purposes".
Plant Quarantine Act 1997	Makes provision for the detection, control, eradication, management or movement of plants potentially threatening to agriculture or environmental values.

Table 7b: Current Tasmanian legislation relevant to vegetation management: managing a particular primary production resource

Instrument	Description
Forestry Act 1920	Provides for management of all state forest by Forestry Tasmania. Requires management for multiple purposes.
Forestry Rights Registration Act 1990	Provides for the registration of rights to tree ownership, carbon sequestration and rights to manage and harvest trees, in respect of land.
Private Forests Act 1994	Provides for encouragement of a private forestry industry on a basis of good land management principles.
Living Marine Resources Management Act 1995	Provides for sustainable management of living marine resources including sea grasses and macroalgae.
Mineral Resources Development Act 1995	Provides —for the development of mineral resources consistent with sound economic, environmental and land use management".
Water Management Act 1999	Provides for management of water resources and related purposes.
Hydro-Electric Commission Act 1944.	Includes provisions to acquire or deal with land.

Table 7c: Current Tasmanian legislation relevant to vegetation management: managing land

Instrument	Description
Crown Lands Act 1976	Provides a management framework for Crown land reserves and procedures for dealing with other Crown land.
Aboriginal Lands Act 1995	Grants certain parcels of land to the Tasmanian Aboriginal community.
Regional Forest Agreement (Land Classification) Act 1988	Implements changes in land classification, especially reserve design, as a result of the Regional Forest Agreement.
National Parks and Reserves Management Act 2002	Provides for management of reserved land and allied purposes.
Public Land (Administration and Forests) Act 1991	Allows for a —land court" called the Public Land Use Commission.

Table 7d: Current Tasmanian legislation relevant to vegetation management: establishing institutions

Instrument	Description
Tasmanian Museums Act 1950	Provides for the existence of the Tasmanian Museum and Art Gallery and its governance.
Royal Tasmanian Botanical Gardens Act 2002	Establishes the governance framework for the RTBG and prescribes authority for managing the site of the RTBG.

The convenience of broad categorisation of legislation in Tables 7a–d allows some broad discussion. The Acts that provide overarching administration and process frameworks apply to development application and planning in relation to major development applications (*Major Infrastructure Development Approvals Act 1995*). The *Land Use Planning and Approvals Act 1983* is the umbrella for the Resource Management Planning System (RMPS) and is clearly fundamental in providing protection of vegetation values through appropriate planning systems. The RMPS is a package of legislation and policies including the *State Policies and Projects Act 1983*. Other activities that may directly, or presumably more often indirectly, influence vegetation management outcomes are Acts that provide for management of the environment where industrial impacts are concerned, and control of pollution (*Environmental Management and Pollution Control Act 1994*).

Then there are a range of Acts that are uneven in scope but are aimed at a systematic approach to quarantine, biosecurity, and harmful invasive species issues (*Seeds Act 1985, Weed Management Act 1999, Plant Quarantine Act 1997*). Other legislation sets up sustainable environmental management processes aimed at forestry industries (*Forest Practices Act 1985*). The *Natural Resource Management Act 2002* is a major instrument that sets up the administrative framework for managing local and regional involvement in natural resource management on mainly private land, but also tackling cross-tenure issues.

Another category of legislation considered here is that dealing with sustainable management of a resource industry dependent on vegetation. Exceptionally, the *Living Marine Resources Management Act 1995* is only included here because it encompasses management of all marine organisms including sea –grasses" and kelp (algae) forests that comprise vegetation within state waters, but have not usually

been considered in discussing vegetation issues. It has been convenient to draw a line between terrestrial vegetation and marine vegetation. The current national review of the Native Vegetation Framework considered whether marine vegetation should be included in the process, but it was beyond the scope of the framework and best considered in another context (Howel Williams, pers. comm. November 2009).

Management of forests is of clearest relevance here and on private land, the *Private Forests Act 1994* provides advisory services for silvicultural, economic and sustainable environmental management of private forests. Landowners' rights to tree ownership, their management and harvest, as well as ownership rights over sequestered carbon are clarified in the *Forestry Rights Registration Act 1990*. The *Forestry Act 1920* provides the legislative umbrella for the production forest estate generally and significantly requires management for multiple purposes. This is effected through appropriate plans.

While the *Forestry Act 1920* was promulgated during the development consolidation period (1901–1970) the *Forestry Rights Registration Act 1970* is a product of the environmental period (1970–1997). It also signalled the need for a policy response to a new market-driven requirement from the vegetation sector. This was "before it's time" in the sense that it could have easily helped characterise the new governance period (1997–present).

There are two other major resource industries served by legislation considered here—water resources and minerals. The legislation is included because of linkages (not always explicit) with vegetation outcomes. The *Water Management Act 1999* provides for water use while specifying mechanisms to protect vegetation management outcomes. The *Hydro-Electric Commission Act 1944* provides for generation infrastructure and land and rivers associated with it. The impacts of the infrastructure have already been accounted for and vegetation outcomes relate to how management occurs on land vested in the commission for its main purposes. The *Mineral Resources Development Act 1995* allows for building geological knowledge about the state, providing the framework and principles for mineral exploration and prescribes that all this is to be done in the context of sound environmental and land use management.

Another class of legislation makes particular provisions for land assessment, land use arbitration and land management. Reserves are managed under the *National Parks and Reserves Management Act 2002* while the *Crown Lands Act 1976* determines management and policy on the rapidly decreasing areas of the state that are unallocated Crown land. Some areas are now managed by the Tasmanian Aboriginal community, by virtue of the *Aboriginal Lands Act 1995*. Some of these lands were previously unallocated Crown land and some were reserves under the *National Parks and Reserves Management Act 2002*. The National Reserve System approach allows for reserves on Aboriginal land under the "Indigenous Protected Area" category, but no such areas have yet been created.

As a result of the Regional Forest Agreement, numerous areas of land were brought into the state's reserve system and classified according to standard nationally consistent nomenclature [*Regional Forest Agreement (Land Classification) Act 1988*]. Dispute, disagreements and processes relating to land allocation may be dealt with by what is effectively a "land court" called the Public Land Use Commission [*Public Land (Administration and Forests) Act 1991*].

Another category of legislation here is the specialised legislation relating to Botanical Gardens and the Tasmanian Museum. The work and interests of these two institutions intersect with what we consider under the scope of vegetation management policy. The *Tasmanian Museums Act 1950* almost entirely deals with the administration and governance of the museum, referring of course to its broad remit but only in general terms. Neither the Tasmanian Herbarium (administratively part of the Tasmanian Museum and Art Gallery) nor its work is referred to in the Act. This indicates that the herbarium could be transferred to another department such as the Department of Primary Industries, Parks, Water and Environment by an administrative or Cabinet instruction without any legislative changes.

The *Royal Tasmanian Botanical Gardens Act 2002* establishes the administrative and governance structure of the Royal Tasmanian Botanical Gardens, which is confined to a 14 hectare site on the Queens Domain in Hobart. This is the location of horticultural research on the Tasmanian flora, and the centre of ex situ flora conservation management, especially at the Tasmanian Tree Seed Centre. The Act gives a head of power for a master plan and it is this latter document that contains

the strategies and policy direction of the work of the Royal Tasmanian Botanical Gardens.

4.3.2 Other Policy Instruments

The state government's accounting of progress towards indicators provides feedback on the efficacy of policies across government. *Tasmania Together* is an overarching policy direction and outcomes framework (across a broad range of themes) produced by the government in partnership with the public and includes goals, standards, indicators and targets against which performance can be measured. The document covers all aspects of Tasmanian life and is a human wellbeing-centred approach that is consistent with the approach taken in the Millennium Ecosystem Assessment (Millennium Ecosystem Assessment 2005). The relevant standards and indicators from *Tasmania Together* have been extracted and presented in Table 8 and hence the breadth of the indicators is not really shown here.

Table 8: Standards and indicators under goals 11 and 12 relevant to vegetation management in *Tasmania Together*

***Tasmania Together* goal and standard**	**Indicator**
Goal 11 (2) Value and protect old-growth forests and to phase out clear-felling in those forests	Area reduction of clear-felling in old-growth forests.
	Area of old-growth forest in protected reserves and covenants.
	The proportion of area of reserves subject to a system of reserve management audits (Tasmanian Reserve Code of Practice).
(3) Value and protect our biodiversity	number of species showing a decline in status on the schedules of the *Threatened Species Protection Act 1995.*
	(b) Number of species showing an improved status on the schedules of the *Threatened Species Protection Act 1995.*
	Reducing the adverse impacts of pests: Number of new pests established.
(4) Value and protect our unique natural areas	Percentage of land protected either by legislation or by contract in conservation reserves, under covenant or heritage regimes.
	Percentage of protected land covered by approved management plans.
	Reservation shortfall in hectares in relation to RFA targeted communities (i) for public land, (ii) for private land.
	Area of non-forest native vegetation protected in (a) All reserves included in the Comprehensive, Adequate and Representative (CAR) Reserve system, (b) All other non-binding agreements such as vegetation management plans and Land For Wildlife Agreements.
Goal 12 (1) Encourage sustainable and appropriate land use	Area of land affected by salinity.
	Percentage of Tasmania covered by native vegetation.

(based on information in Tasmania Together Progress Board 2006)

While there are few statutory state policies in operation, there are three important ones relevant to vegetation policy and they are described below. These exist pursuant to the *State Policies and Projects Act 1993*. The central objective of any state policy is sustainable development, which includes sustaining the potential of natural resources and safeguarding the capacity of ecosystems to support life.

The State Policy on the Protection of Agricultural Land 2007 recognises the importance of existing agricultural land and aims to protect agricultural land from conversion to non-agricultural use, among other measures. The policy especially targets prime agricultural land on high quality soils. The Tasmanian State Coastal

Policy 1996 (and *State Coastal Policy Validation Act 2006*) provides principles under which development is to occur in the coastal zone, on land this extends to one kilometre inland from the high-water mark. The policy has many provisions relating to the maintenance of natural ecosystems and the interrelation of the policy with other overlapping policy instruments require attention.

4.4 The Agencies and Actors

A summary of the roles of the state government agencies follows in this next section and a brief summary of the roles of relevant Tasmanian government agencies and government business enterprises is summarised in Table 9.

4.4.1 The Department of Primary Industries, Parks, Water and Environment

This is the agency with the lead role in vegetation policy coordination. It is responsible for administration of a range of what might be regarded as core vegetation policy instruments. The scope of its activities include vegetation and species information management, reporting on vegetation into state and national level processes, vegetation policy coordination, policy innovation and biological monitoring. Within the structure of this department sits the Parks and Wildlife Service and the Royal Tasmanian Botanical Gardens.

Table 9: Brief summary of roles of Tasmanian Government agencies and government business enterprises, working on vegetation management

Agency	Roles
Department of Economic Development, Tourism, and Arts	Taxonomic research for plants in the Herbarium, database, input into Australian Virtual Herbarium.
Department of Primary Industries, Parks, Water and Environment	Development impact assessments, reserve system, information management, vegetation policies and strategies, monitoring, mapping, ex situ living collections in the RTBG.
Forestry Tasmania	Forest research and management, interpretation, policy input.
Department of Infrastructure, Energy and Resources: Forest Policy Unit; Forest Practices Authority (Annual Report of the FPA 2005–06)	Forest policy, survey, research, compliance activities, information resources.
State Fire Service	State fire management policy.
Department of Premier and Cabinet	Significant major projects or negotiations.
Tasmanian Institute of Agricultural Research	(Research targeting sustainable land management , vegetation condition and land capability questions) Addressed by interorganisational agreements and research policy statements.
CSIRO*	Research, particularly through the forest-related R&D addressed by intergovernmental agreements and memoranda as well as research policy statements.

* CSIRO is not a state agency but operates in the state in partnership with local forestry and research entities

The Nature Conservation Strategy 2002–2006 was an initiative of the then Nature Conservation Branch in the Department of Primary Industries, Parks, Water and Environment. A small group of scientists began its preparation following the allocation of funds for the purpose in the state recurrent budget allocation for the 2000–2001 year. A State Biodiversity Committee was appointed by the minister and comprised expertise in areas such as rural interests, forestry management, marine resources, environmental research, local government, geological conservation, natural resources policy and community conservation programs. The committee developed a range of discussion papers covering various nature conservation themes such as –Improving Knowledge", –Promoting and Restoring" and –Reducing Threats". Comments and feedback were invited through public advertisement. The process was able to take advantage of a range of other documents, mostly prepared

within government and usually dealt with particular issues. In the published Nature Conservation Strategy, twenty out of the forty references are state government plans or strategies, or otherwise are documents containing substantive recommendations or parameters within which actions should occur.

The final report was published as *Tasmania's Nature Conservation Strategy—an action plan to protect Tasmania's natural diversity and maintain ecological processes and systems*. It was prefaced by the Chairman of the State Biodiversity Committee and published by the Department of Primary Industries, Parks, Water and Environment. It was the most apparently thorough strategy document dealing with its subject in the state and its recommendations were detailed and followed a consideration of each theme with scientific veracity. Yet, when the strategy was finally released the government prepared and published on the Department of Premier and Cabinet website, a ~~–~~State Government Response". While this was an appropriate reaction to a report that was meant to have a whole-of-government approach, but was issued independently of the minister, the apparently defensive approach to the recommendations may have retarded the uptake of the strategy right from the beginning. A process failure was obviously involved here. The minister should have been requested to consider and endorse the strategy prior to release following review and endorsement by the Environment and Resource Heads of Agencies.

The strategy is still invoked by policy actors within government but its qualified reception by the minister possibly retarded its uptake across government. While the document has been used at the officer level within government and by some business units the lack of an apparent driver for the strategy prompts the question: who learns? Or who is there to learn? The strategy is thoroughly compiled with background information across a broad range of issues. Many specific actions are recommended, but the benchmarks for measuring success were left to a later process that did not eventuate. The actions can be assessed however, and clearly a number of these have been implemented from different quarters.

The Royal Tasmanian Botanical Gardens makes a significant contribution to native species management through ex situ planting, horticultural and propagation research, and maintenance of a seed bank. The Act is silent on any such functions

and strictly confines itself to the administrative arrangements for managing the gardens and looking after the particular site of the gardens. The real policy instrument is the strategic plan developed with all stakeholders. This has a life of ten years and a new one is being prepared at the time of writing (November 2008).

Similarly, the Parks and Wildlife Service is strongly oriented towards its operational responsibilities. It has some planning capacity and other functions oriented towards satisfying the needs of clients such as tourism entrepreneurs, bushwalkers and so on. There are no science-based ecological monitoring and evaluation frameworks in its reserve management. There is no requirement for it within state government-based policy and legislation. Exceptionally, the World Heritage Area reserves are managed differently. There is an evaluation framework (Jones and Dunn 2000) that has been developed in response to international expectations in managing World Heritage Areas expressed through the obligation on state parties to provide periodic reports on the state of conservation of World Heritage properties. This response is expressed through a four-tier level of management assessment (Parks and Wildlife Service 2004, pp. 10–11.). The report of the evaluation of management effectiveness for the Tasmanian Wilderness World Heritage Area (Parks and Wildlife Service 2004) is consistent with the Australian Strategy for the National Reserve System. The strategy aspires to meet relevant international goals and standards in monitoring and evaluation of protected areas, although reserves managed by the Parks and Wildlife Service do not have recognition under the relevant IS014001 standard.

The *National Parks and Wildlife Act 1970* was an important milestone for flora conservation and management. Introduced in the State Parliament by the Minister for Agriculture in the Bethune Liberal Government, once passed into law it charged the Director of the National Parks and Wildlife Service with seven principal duties. The first three of these were broad responsibilities involving flora conservation, namely Part 2 S6(1):

> (a) The keeping under review of the setting aside of land for conservation purposes and the promotion of those purposes in relation to the use or development of land generally;

(b) The carrying out, or arranging for the carrying out, of research and other activities that appear to him desirable in connection with the administration of this Act or the conservation of the fauna and flora of the State; and
(c) The carrying out, or the promotion of the carrying out, of educational activities, and the provision and dissemination of information, related to the conservation of the fauna or flora of the State or other matters arising in connection with the administration of this Act.

These responsibilities gave wide scope for the director to pursue flora and fauna conservation. These powers survived three hundred and thirty-three mostly minor amendments between 1970 and 2000. In 2002, there was administrative separation of reserve management under the Parks and Wildlife Service from other conservation functions housed in a different agency. Two Acts were created out of the *National Parks and Wildlife Act 1970*. The *National Parks and Reserves Management Act 2002* dealt with the operational responsibilities of maintaining a reserve system. The *Nature Conservation Act 2002* maintained the functions cited above in a new Part 2S6(1), but in slightly modified form so they became:

(a) Keeping the setting aside of land for conservation purposes under review;
(b) Promoting conservation purposes in relation to the use or development of land generally; and
(c) Carrying out, or arranging for the carrying out of, research and other activities that appear to the Secretary to be desirable in connection with the administration of this Act or the conservation of the fauna, flora or geological diversity of the State.

4.4.2 Department of Economic Development, Tourism and the Arts

The Tasmanian Herbarium is the main state repository of dried voucher collections for all the flora species occurring in the state and a centre of plant taxonomy research. It is a fundamental information resource for management of species and therefore, ultimately, vegetation. It is not supported by any formal legislative instrument and exists by virtue of the administrative recognition by its umbrella agency, which refers to its purpose and direction in various departmental documents. The activities of the herbarium are established by tradition and it

pursues activities that are recognised as legitimate herbarium activities anywhere else. These activities are discussed within a forum called the Commonwealth Heads of Herbaria, a group that sits outside the Council of Australian Governments process. The roles and responsibilities of these entities vary across the nation as some are established and operate under explicit legislation. Moreover, the roles in some states concern vegetation issues such as vegetation mapping and vegetation classification. The Tasmanian Herbarium has a fairly clear role but, even here, extra activities have been adopted as opportunities arose. For example, the Tasmanian Herbarium developed, with a private biodiscovery company, a contract for the herbarium to supply plant specimens collected from the wild. The company screened these plants for compounds with pharmaceutical potential. While this contract had to be negotiated in a policy vacuum this type of activity is now the subject of policy development at a whole-of-government level.

4.4.3 Forestry Tasmania

Forestry Tasmania is a self-sufficient organisation that incorporates on ground operational capability, planning, native forest ecological research and policy and program expertise. Their vegetation management outcomes are measured for a number of policy and reporting drivers. Thackway *et al.* (2005) describes the extent to which this approach leads to ecologically sustainable management of forests. A general idea of the broad role of Forestry Tasmania in vegetation management is summarised in the organisation‘s Forest Management Plan (Forestry Tasmania 2008). This plan meets the requirements of Section 22 of the *Forestry Act 1920* in that it covers the statewide operations of Forestry Tasmania on state forest.

4.4.4 Department of Infrastructure, Energy and Resources

This agency is home to the Tasmanian Government‘s obligations under the RFA and supplementary agreements and its work is overseen by the Forest Policy Unit. The Forest Practices Authority, also in this agency, is the compliance authority for the forest industry, as well as having powers conferred to ensure compliance with the RFA, including the Permanent Forest Estate Policy and policing threatened vegetation communities requirements under the *Nature Conservation Act 2002*.

Regional Forest Agreements were initiated at the Commonwealth level for the major areas in Australia where a forest industry was active. There were six regions subject to studies leading to agreements, but only five actual agreements were eventually signed. The whole of Tasmania was a region for the purposes of this approach. I argue that the Regional Forest Agreement framework, while comprehensive for forests, has been used as a policy umbrella for dealing with more general issues of vegetation management that are not explicitly related to forest production. This is demonstrated in certain aspects of the next policy described, which was specifically prescribed under the Regional Forest Agreement.

The Permanent Native Forest Estate Policy 2007 is one of the three primary elements for reaching ecologically sustainable forest management (the other two being a Forest Practices Code and a comprehensive, adequate and representative forest reserve system). The policy helps to meet the phasing out of broadscale clearing and conversion of native forest (Tasmanian Community Forest Agreement 2005). The policy stipulates that:

- 95% of the 1996 Comprehensive Regional Assessments native forest area is to be maintained on a statewide basis
- broadscale clearing and conversion of native forest is to be phased out on public land by 2010
- broadscale clearing and conversion of native forest on private land is to be phased out between 2005 and 2015
- guidelines are developed for meeting regional biodiversity, salinity and water quality objectives.

The implementation guidelines that accompany the policy stipulate that the area of native vegetation on offshore islands is not to fall below 30% of the island area. This requirement has already been tested. In 2008, an application to clear vegetation on King Island was made under a Forest Practices Plan. The application was rejected by the Chief Forest Practices Officer, one of the grounds being that the clearing could go below the 30% threshold for the island, as there was purported to be some lack of precision in the known extent of vegetation on King Island. The applicant appealed to the Forest Practices Tribunal and this was upheld, partly in acknowledgment that the current extent of vegetation was calculated to be about

33% and this calculation based on mapping was considered accurate enough. Although the appeal was upheld in this instance, the case arguably marks the beginning of a period where more clearing applications are rejected under this policy. In conjunction with the power to prevent clearing of threatened communities and other measures under the *Forest Practices Act 1985*, broadscale clearing has decreased.

Table 10 demonstrates dispersal of responsibilities across a range of departments. Policy is mainly concentrated in the Department of Primary Industries, Parks, Water and Environment and key relevant policy areas are located in Forestry Tasmania, Department of Infrastructure, Energy and Resources, State Fire Service and the Department of Premier and Cabinet. Only the Department of Economic Development, Tourism and the Arts lacks a significant policy role regarding vegetation issues, in spite of hosting the Tasmanian Herbarium and its functions. An idea of the spread of policy responsibility is further indicated by the distribution of the relevant Acts among different agencies. Some of the legislation, of course, is peripheral in relevance and some legislation is of more relative importance.

Table 10: Government institutions, authorities and business units, dealing directly or indirectly with native vegetation management and their legislative heads of power

Institution	Responsible for these Acts and instruments
Forestry Tasmania	*Forestry Act 1920, Public Land (Administration and Forests) Act 1991* (except Part 2—Dept. of Justice under Minister for Planning), *Timber Promotion Act 1970*, *Regional Forest Agreement (Land Classification) Act 1998*–all except Divisions 2 & 3 of Part 2 (Department of Primary Industry and Water, Department of Tourism, Arts and Environment).,
Department of Primary Industries, Parks, Water and Environment (including Royal Tasmanian Botanical Garden)s)	*Crown Lands Act 1976, Weed Management Act 1999, Nature Conservation Act 2002, Threatened Species Protection Act 1995, Living Marine Resources Act 1995, Natural Resource Management Act 2002, Seeds Act 1985, Plant Quarantine Act 1997, Regional Forest Agreement (Land Classification) Act 1988—Division 2, Part 2, Biological Control Act 1986, Royal Tasmanian Botanical Gardens Act 2002.*
Department of Economic Development, Tourism and the Arts (including Tasmanian Museum and Art Gallery	*National Parks and Reserves Management Act 2002, Environmental Management and Pollution Control Act 1994, Wellington Park Act 1993, Tasmanian Museum Act 1950*
Department of Infrastructure, Energy and Resources (see also Private Forests Tasmania & Forest Practices Authority, both of which exist within DIER)	*Forestry (Fair Contract Codes) Act 2001*
Private Forests Tasmania	*Private Forests Act 1994*
Forest Practices Authority	*Forest Practices Act 1985, Regional Forest Agreement (Land Classification) Act 1988 (Division 3, Part 2), Forest Practices (Private Timber Reserves Validation) Act 1999, Forest Practices Amendment (Private Timber Reserves) Act 1998*
University of Tasmania	*University of Tasmania Act 1992*
Department of Premier of Premier and Cabinet	*Aboriginal Lands Act 1995, Native Title (Tasmania) Act 1994, Tasmania Together Progress Board Act 2001*
Tasmanian Fire Service	*Fire Service Act 1979*

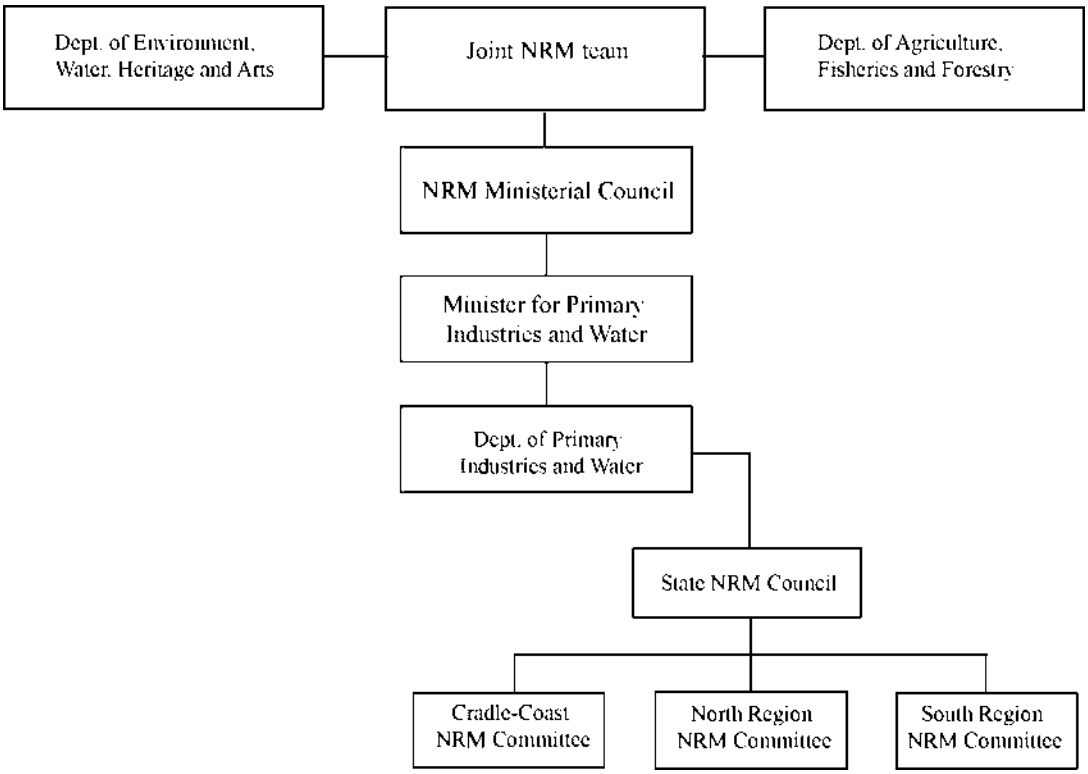
At the heart of the difference between the two state government land management agencies is the question: ―managing for what?" Forestry Tasmania are primarily managing for wood production values but the integration with other purposes is high, and driven by many external requirements that involve monitoring and evaluation across a spectrum of forest uses. The Parks and Wildlife Service arguably has mostly operated using the ―benign neglect" approach. The operations of Forestry Tasmania has also been scrutinised by the Forest Practices Authority,

operating under the *Forest Practices Act 1985*, which is responsible for ensuring compliance across a range of forest management and harvesting indicators.

4.4.5 NRM Regional Groups

The role of the community has been expanded through the formation of three NRM regional groups that cover the state. The groups are responsible for setting NRM priorities and developing and implementing strategies for protecting and managing vegetation values. The state NRM is Tasmania's mechanism under the NHT bilateral to get the mechanism to assist regional delivery of natural resource management actions in place. The relationship between the entities representing the NRM process is shown in Figure 2.

Figure 2: Relationships of NRM organisations in Tasmania



4.4.6 Non-Government Actors

Until the late 1980s, the reservation of native vegetation was a core task of the lead nature conservation agency, but the meagre land purchase budget gradually starved the programs of an ability to keep up with the emerging and more expansive

priorities. The priorities for improving the reservation of plant species and communities moved to more fertile lowland areas in the rural landscape, where competing land uses were obvious. The purchase, for conservation purposes, of private land by private foundations or NGOs began with the establishment of the Bush Heritage Fund by Dr Bob Brown in 1990. In 2001, Nathan Males established the Tasmanian Land Conservancy with private subscriptions and it began purchasing land. The purchase of land for vegetation conservation could be easily measured in hectares, locations and costs. Vegetation types and plant species reserved were tracked through overlays of vegetation maps and known species locations. There had been significant gains made while opportunities remained in public land reservation. The largest came through the land use allocation process following the RFA and subsequently through the Crown Land Assessment Committee (CLAC) process within government.

Non-government actors include Greening Australia, which is a national business undertaking mainly revegetation but also works on various consultancies. Sustainable Living Tasmania is a government-subsidised NGO mainly providing environmental education resource. Environmental lobbying organisations such as The Wilderness Society, the Tasmanian Conservation Trust and the World Wide Fund for Nature play various roles, especially policy advocacy. Various Aboriginal organisations exist to provide management responsibilities on Aboriginal Land.

Table 11: Non-government organisations with activities relevant to vegetation management

Institution	Type of activities
Greening Australia	Revegetation and related activities
Tasmanian Land Conservancy	Purchasing Tasmanian land for conservation
Sustainable Living Tasmania	Environmental educational services
Tasmanian Aboriginal Land and Sea Council	Management of Aboriginal land including some Indigenous Protected Areas
Aboriginal Land Council of Tasmania (overarching statutory body)	
Tasmanian Aboriginal Centre	Manages some Furneaux islands including Chappell, Clarke and Badger
Cape Barren Island Aboriginal Association and Flinders Island Aboriginal Association	Cape Barren Island/Thule
Bush Heritage Fund	Purchasing land for conservation

4.5 The Implementing Machinery.

4.5.1 Government, Institutional and Other Bodies.

Notwithstanding the agenda-setting by the Commonwealth, the state government is the initiator of policy at the statutory level and the origin of most sub-statutory vegetation-related policy. There is change, to a small degree, at the local government level but it is uneven across the state. Some local governments have appointed bushland managers or vegetation managers who, in some cases, have been responsible for policy innovation at that level. The scope within which such actors can work is bounded by the limits of the state government frameworks. A hierarchical policy framework is heavily weighted towards the state government level where policy tensions can arise due to fragmentation of the natural resource policy landscape.

The operational aspects of vegetation management are clearly visible, assisted by web pages for the institutions and departments. Policy advice is sometimes available in the different organisations with responsibilities to deliver under their policy instruments. But in some cases, this expertise is thinly spread and may only be available to serve interpretation of existing instruments without venturing into policy evaluation, learning or innovation. The exceptions are where those organisations are concerned with forestry activities. Those instruments administered by the Department of Primary Industries, Parks, Water and Environment have been modified in accordance with forest policy-initiated changes, but that department has policy expertise. Policy innovation is therefore concentrated in a small section of the bureaucracy and revolves around the priorities that have been largely set by the Vegetation Management Policy Advisory Group, unless there are direct responses to requirements by Australian Government programs.

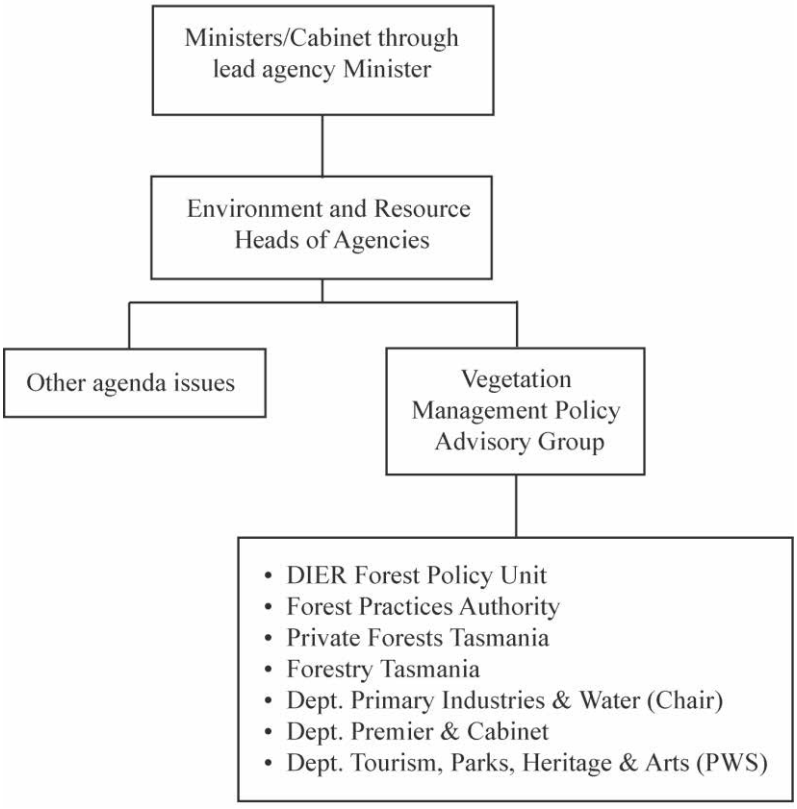
Cross-agency coordination is formalised in some instances. Public Authority Management Agreements are used by the Department of Primary Industries, Parks, Water and Environment to devolve operational and compliance responsibilities for threatened species management by other authorities, such as the Forest Practices Authority. Memoranda of understanding are also used with one example being that developed between the Threatened Species Unit and the Royal Tasmanian Botanical Gardens, recognising their mutual efforts that contribute to threatened species

management. The difference in these two particular examples is that in the former case, one section of an agency is devolving responsibility to another, while in the latter case the purpose is to clarify roles of different parts of government that work in overlapping areas of responsibility.

4.5.2 Advisory, Integrating and Information Groups

A common approach to vegetation management and protection across government has been increased through cooperative inter-agency work of the Vegetation Management Policy Advisory Group, the review of the Regional Forest Agreement, and steering and reference groups (see Figure 3).

Figure 3: Composition of the Vegetation Management Policy Advisory Group and its relationship to Executive Government



A range of coordination and advisory groups in government, dealing with vegetation has been identified in this research (see Table 12). There are specialised groups as well as some that purport to be cross-cutting in a thematic sense. Perhaps only the Vegetation Management Policy Advisory Group has the potential for broad policy overview of vegetation management across agencies.

Table 12: Coordination and advisory groups dealing with vegetation issues

Level	Name of Group	Act, or Purpose
High	Threatened Species Scientific Advisory Committee	*Threatened Species Protection Act 1995*
	NRM Council	*Natural Resource Management Act 2002*
	State Fire Management Council	*Fire Service Act 1979*
	RTBG Trustees	*Royal Tasmanian Botanical Gardens Act 2002*
	State Weed Committee	*Weed Management Act 1999*
	Forest Practices Authority	*Forest Practices Act 1985*
Mid	State Biosecurity Technical Committee	Coordination (part of a crisis planning and response framework).
	Tasmanian Spatial Information Council	Facilitates ―full access to, and application of, spatial information to underpin Tasmania's economic, environmental and social prosperity" (Tasmanian Spatial Information Council 2009).
	RFA Implementation Group	Ensures implementation of, and reporting on recommendations from the RFA review and the Tasmanian Community Forest Agreement.
	Vegetation Management Policy Advisory Group	Determines major vegetation policy direction across departments, particularly relating to RFA.
	Interdepartmental Committee on Access to Genetic Resources	Advisory—establishing a policy framework.
Low	Resource Management and Conservation Division Spatial Information Steering Committee	Intradivisional information-sharing group—spatial information on water resources.
	DPIPWE Information Management Steering Committee	Sign-off on agency-wide information policies.
	TASVEG Scientific Advisory Committee	Advisory on administration of protocols for vegetation mapping.
	Flora Advisory Committee	Coordinates and informs technical opinion on plant species status in relation to the *Threatened Species Protection Act 1995*.

Note: High (statutory); Mid (important coordinating function, ongoing or interdepartmental, terms of reference may refer to significant policy documents); Low (may be ongoing or transitory, coordination of, or addressing, short term issues).

4.5.3 Resources Applied to Implementation

The resources applied to on-ground vegetation management have expanded in the last two decades through programs coordinated by the NRM regions, by some local

governments, and by volunteer groups such as Wildcare. Apart from work done by the major state government land managers, these organisations have helped to extend coverage across all land tenures. NRM regions are governed by committees that in each case include representatives of local government, other major land managers and the community. Thus a degree of local knowledge and cross-tenure activity is reflected in the regional strategies prepared by each. While the NRM regions receive some policy direction and program advice from the state government-sponsored State NRM Council, there is also direct interaction between the NRM regions and the Commonwealth who provide funding for the NRM programs.

The remit for local government involvement in vegetation management is through the *Land Use Planning and Approvals Act 1983*, which dictates consistent standards for planning schemes. Another part of Tasmania's Resource Management and Planning System is the Model Framework for Planning Schemes. This system guides local government in achieving sustainable outcomes. The policy guidance is provided by the same state and national biodiversity agreements, policies, codes and guidelines used at the state level. Model templates for planning schemes include a vegetation schedule.

There are cases where Commonwealth legislation operates within the state, such as in respect of Commonwealth land such as military training areas, light-stations, and some other specialised land classifications. In some cases the Commonwealth is able to specify particular policy and management directions. In the case of RAMSAR sites (specified areas of wetlands) the Commonwealth has developed a system that includes monitoring and condition reporting. This conceptual system (DEWHA 2008:7) is described in the concept of guidance about how to describe the ecological character of wetlands. In this case, therefore, the information framework is the fundamental basis of the other components in a system that would include adaptive management. However, policies and frameworks are pointless without the means to put them into effect. Appropriate structures are also important and these can facilitate joined-up government. High-level strategies have a much more obvious chance of success if processes are managed to enable strong support from bureaucracy, government and stakeholders.

4.6 Integrating Vegetation Conservation Under Strategic Policy Goals

The current legislation relevant to vegetation management has been shown earlier in Table 7. Vegetation policy is currently spread across many Acts, administered by a variety of government (Table 9) agencies and authorities. Responsibilities are scattered in a fashion that reflects responsive historical evolution. This thematic area is fertile ground for a joined-up approach across this theme.

The inter-agency Vegetation Management Policy Advisory Group was set up to implement some vegetation policy measures arising out of the RFA and subsequent RFA reviews, such as devising the policy on a permanent forest estate. It has also had oversight of the policy implications of the various spatial information datasets that are used for reporting for State of the Forests and RFA reporting. Influential actors have expressed the intention for this group to become an inter-agency policy group for all vegetation matters, but the terms of reference and the membership may need to be reviewed before this can happen. The current gaps in joined-up policy could be illustrated with many examples. There is also currently very little dialogue between state government agency staff and local government, yet the latter is the frontier area in terms of driving vegetation policies down to a local on-ground level. The state could play a role in facilitating the planning scheme vegetation schedules by provision of guidelines and illustration of best practice. This would also contribute to consistency across the local government areas and allow better processes for integration with state-level processes.

The state does have the Resource Management Planning System, which should be a mechanism that encourages joined-up policy. Under the Lennon state government in 2003, a joint state and local government project called –Simplifying Planning Schemes Project" was initiated under the Premier's Local Government Council. A Common Key Elements Template was introduced and provides machinery clauses and a framework for incorporation in the written statutory component of a planning scheme. As a result of Planning Directive No.1, all new planning schemes must be prepared using the new template. The Resource Planning and Development Commission has issued the new Template Guide as a Planning Advisory Note whose purpose is to inform local government of changes in planning requirements or standards.

A *Better Planning Outcomes Response Report* (Department of Primary Industries, Water and Environment 2008) proposed those standard schedules dealing with a range of matters are prepared for attachment to planning schemes. This was in conjunction with a move to bring conformity with Planning Directive No.1, to planning schemes across the state. Initially, there have been thirteen standard schedules proposed; those that relate to vegetation are Bushfire, Hazards and Coastal Vulnerability, and Vegetation, Threatened Species and Weeds.

The worth of vegetation cover for multiple benefits is best demonstrated in the Australian Vegetation Assessment (Bureau of Rural Sciences 2009). All states have programs to preserve as much native vegetation cover as possible. In Tasmania this is reflected under an agreed goal: *Sustainable management of our natural resources* (Tasmania Together Goals and Benchmarks 2006). The indicator under this goal is: ~~"~~Percentage of Tasmania covered by native vegetation". In 2008 this was 73% and the targets were:

- no net loss of threatened vegetation communities and no new communities classified as threatened
- Tasmania retains more than 75% of its land area covered by sustainably managed native vegetation.

The Tasmania Together targets are measurable policy outputs but the outcomes require more ingenious measurement. For example, the area on TASVEG currently mapped as *Lichen lithosere* is not currently included in the area of native vegetation. Yet it would be a valid inclusion and could even redress the blindness of vegetation workers to the importance of lichen fields or lichenland. The extent to which such specific Tasmania Together targets compromise other areas of public policy has not been fully debated.

The National Reserve System is a nationally coordinated program under the NRM Ministerial Council in the Council of Australian Governments (COAG) framework, which sets out criteria and measures Australia's progress towards a comprehensive, adequate and representative reserve system. The use of reserves in plant conservation has now moved on to monitoring the effectiveness of reserves in considering impacts of management actions, impacts of weeds and diseases, and

impacts of major systemic change such as climate change and its implications. The means of accounting for such dynamic changes on a static system has not been fully grasped, although Jones and Dunn (2000) have carried out a detailed review of management impacts in a part of the reserve system. The National NRM Monitoring and Evaluation Framework includes a vegetation condition indicator that might assist tracking an outcome once techniques have been refined.

The outcomes of policy must be measurable to be effective. Monitoring and evaluation for vegetation communities and for species is still being developed. Measuring extent and type is relatively straightforward. Measuring changes in vegetation condition is somewhat more difficult. For vegetation communities some of the outcomes of successful vegetation management policy would be indicated by:

- no loss of significant vegetation types at least below thresholds
- no loss of native vegetation at all or below what might be minimum thresholds
- maintenance of, or improvement in, the condition of native vegetation.

For species, the outcome of successful vegetation management policy would be indicated by:

- no loss of significant species
- improvement in the status of threatened species.

The measurement of these outcomes is dependent on reasonably accurate information being available. This information is in vegetation maps, information on original vegetation extent prior to European landscape modification, and species locality and population information. The nature of this information and its central importance in policymaking is indicated in the report of the ten-year review of the Regional Forest Agreement (Tasmanian and Australian Governments 2007).

There are various difficulties with having responsibilities scattered across many different Acts. One of these is the perception of overregulation, an issue raised by the Productivity Commission (2004).

4.7 Discussion

This chapter has described the implementing frameworks and identified some shortcomings in the implementing machinery. The policy consequences of these shortcomings are discussed further in Chapter 6.

When the Parks and Wildlife Service was severed from the Department of Primary Industries, Parks, Water and Environment in a previous restructure of government departments, the *National Parks and Wildlife Act 1970* was split into one dealing with reserves and another dealing with nature conservation with the intention that they be properly revised in due course. Other Acts have been made dealing with whales and threatened species. In addition there are some Acts outside the principal conservation department that encompass responsibilities close to the interest of sections of this department. A review needs to consider the seamless operation of these other Acts. What also becomes apparent at this stage is the tendency for the tracking of policy in two broad directions. One is concerned with vegetation conservation and the other concerns various sustainable uses of vegetation and species. The Regional Forest Agreement has been the first policy instrument that attempts to bring these directions together.

There is a clear gap in cross-cutting mechanisms. Bodies that persist, that are not formed quickly to do a particular task and then disband, are required to learn and ensure best practice. They also help to ensure on-ground or practical outcomes from available policy mechanisms; achieve these aims by monitoring and evaluating; act as a group to take learning from the above processes; and suggest changes in policy settings and instruments or new policy instruments or initiatives. It is well to ask what can be learned, but we also need to ask is there anyone there to learn? There is a poverty of stable infrastructure available to receive and act on learning. Only where Acts give the clear lead can there be a stable infrastructure and the NRM process within the states is one. Given that the state would wish to establish an overview perspective on its vegetation policy and actively pursue agenda-setting, at this level it seems that there is a particular poverty of mechanisms that allow learning to be captured, recorded or implemented for vegetation management policy.

Chapter 3 outlined the lack of any policy framework for vegetation and the ephemeral nature of the few initiatives that did emerge. That was until the 1970s, which was the beginning of a policy landscape being populated with many initiatives. In this current chapter we see the result of this historical process. Some of the existing policy elements have no evaluation or lesson-learning mechanisms built in. We can put aside, for present purposes, the annual reporting to parliament on the implementation of legislation. There has been increasing focus on proper governance of programs over the last two decades in particular and this has given rise to reviews of program delivery at Commonwealth and state levels. In many cases these have produced tighter accountability in programs and demands for monitoring, evaluation and feedback.

There are inconsistencies across government agencies and this is illustrated in the approach to monitoring of reserves in the various agencies that manage such land, especially Forestry Tasmania and the Parks and Wildlife Service. The absence of a condition-monitoring framework for vegetation in the reserve system has had devastating consequences. This is best illustrated in the case of coastal heathland, a vegetation type with high plant species diversity. A reserve system, by its mere existence, demonstrably cannot protect vegetation and flora values from a range of threats. A good example is *Phytophthora cinnamomi*, a root rot organism capable of spreading through the soil and killing a wide range of plant species (Podger, Palzer and Wardlaw 1990). The Tasmanian response to this fungus has varied and is aimed at slowing the spread of infection through hygiene measures (washdown guidelines). In 1977 a survey of coastal heathlands determined that much of the extant area remained outside the reserve system and recommendations were made on which areas should be added to the reserve system (Kirkpatrick 1977). Many heathland species proved susceptible to *Phytophthora cinnamomi*. An assessment of this approach was carried out 25 years later (Kirkpatrick and Harris 1999). Despite a highly successful reservation campaign, it was a manifestly inadequate measure as *Phytophthora cinnamomi* had spread in this period to almost all areas of coastal heathland, with devastating consequences for plant biodiversity. Reservation was no protection against this plant pathogen. Arguably, had there been better surveillance and monitoring of vegetation condition and health throughout the reserve system,

some early identification of the problem may have been made and mitigation measures put in place.

However, one major response in protecting flora values is the founding of a series of *Phytophthora* management zones (Schahinger *et al.* 2003). These are areas known to be free of *P.cinnamomi* and which correspond with suites of threatened species. The zones are agreed by land managers across government to be those requiring special quarantine measures and recognise that previous policy had not worked. For example, throughout the 1980s and 1990s the attempt to limit the spread of *Phytophthora* was through codes of practice, bushwalking guidelines, signs and education. No legal requirements attached to *Phytophthora* management, except where conditions were specified in statutory park management plans.

The *Phytophthora* management zones then indicate a cross-cutting response in respect of a particular vegetation management issue. The failure of the approaches was recognised and a new defensive approach was proposed. The thrust of this was to draw a line around public land areas that contained flora values and were free of *Phytophthora cinnamomi*. Such areas were on various tenures of public land, including that managed by Forestry Tasmania and land managed by the Parks and Wildlife Service. Agreement across government was obtained in order to have uniform management measures adopted. These zones were established in 2003 but no monitoring of their efficacy has been instituted. This will be necessary to assess whether the zones are maintained, whether other responses to the threat need to be devised, or whether the attempt to manage for *Phytophthora cinnamomi* is abandoned.

The process for dealing with *Phytophthora* since its first recognition as a threat to native vegetation has been one of adaptive management driven by scientific officers within government departments. These officers have been policy actors and have driven different approaches. The way this approach has unfolded differs to most models of policy development commonly described in the literature. The response has been steered by technical learning outcomes and a cross-cutting approach has largely been adopted, sensibly enough for a thematic element that does not recognise who the land manager is or whether the susceptible vegetation values are situated.

After a strong initiative in the early 1970s from within the state, the situation changed in the 1980s to one where vegetation management policy initiatives were largely exogenous, the processes giving rise to this being explored in the next chapter. We shall see in Chapter 5 that this assumption of agenda-setting by the Commonwealth has perhaps encouraged a piecemeal approach to building policy frameworks where flexibility has been the key. The *State Policies and Projects Act 1993* and the Resource Management Planning System, which allows new initiatives to be readily incorporated, have assisted this flexibility. This current situation suggests that the present reflexive process requires stepping back and re-examining.

This chapter may appear to the reader to have a more negative approach than the preceding chapter. As explained, this is due to the current chapter taking on the task of describing the elements of the current framework, using an explanation of the processes in some case to illustrate the way some policies developed. This then involves foreshadowing the gaps and problems in the current policy framework. It will inevitably appear more negative because it anticipates the policy gaps that will be dealt with in Chapter 6.

4.8 Chapter Summary

The current vegetation management policy would be completely fragmented were it not for the Regional Forest Agreement that acts as a cross-cutting mechanism and has built in lesson-learning provisions. The Resource Management Planning System also plays an important role here in unifying a range of resource management Acts and policies under its umbrella. There is still a plethora of Acts administered by different agencies that have resulted from incrementalism. There appears to be little coordinated policy development and, with closely related responsibilities scattered across a number of agencies, there is potential for the silo effect. Despite the apparent role of a Vegetation Management Policy Advisory Group, there are no mechanisms for sustained policy learning and coordination. In the next chapter, the extent to which intergovernmental factors has shaped current Tasmanian vegetation policy and how such factors can be accounted for in future policy evolution is investigated.

The current policy framework results from processes described in Chapter 3. The historical pathway described showed that some policy innovations became contingent events that then shaped a relatively quiet period of stasis. Such contingent events included the proclamation of the *National Parks and Wildlife Act 1970*, promulgation of the Regional Forests Agreement in 1997, and the formal establishment of the NRM regional framework in 2002.

CHAPTER FIVE

INTERGOVERNMENTAL ISSUES: CHALLENGES AND OPPORTUNITIES

5.1 Chapter Aims

The aim of this chapter is to scrutinise the relationships between the three tiers of government—Commonwealth, state and local—to determine the influence this may have had on environmental or vegetation policy. The history of Commonwealth–state relations is particularly explored to see how this relationship may have changed through time and its effect on policy development as it affects the Tasmanian jurisdiction. One aim of this chapter is to provide a contextual discussion of relations between the three levels of government. This is considered necessary in considering how to best develop future vegetation policy.

5.2 Introduction

We have seen in Chapter 3 in particular, that policy initiative shifted from being state-led to largely Commonwealth-led after the early 1980s. The impact of this on policy development has been profound and reflects a shift in Commonwealth–state power in the natural resources area through this time. Designing a framework for a substantive area of policy in an Australian state must take into account the prevailing balance of intergovernmental dynamics. There are tensions between the three layers of government (federal, state and local) that can manifest in different ways, depending very largely on the approach of the federal government. A framework that was too inflexible might not survive in the longer term.

This thesis considers intergovernmental relations to be significant because the nature of federation has influenced the way policy instruments have developed, which in turn has influenced vegetation management. The responsibility for roles critical for vegetation management appears to place the Commonwealth as the agenda-setter, but the extent to which some shared partnership arrangements being current invites comment in this chapter. An understanding of the intergovernmental dynamics and the system under which they operate is therefore critical to thinking

in any substantive policy area. The lessons learned in the historical evolution of vegetation (NRM) policy (Chapter 3) as well as the scope for lesson learning in the currently evolving regional delivery model, are examined. This chapter assesses some different stages in the development of intergovernmental relations and turns to the important question of how the evolving relationships between the three tiers of government may influence the development of a vegetation policy framework for the state. It will be apparent that a policy framework for vegetation needs to account for a shifting emphasis in federal–state relations.

From separate colonies reporting directly to the Secretary of State for the Colonies in the eighteenth and nineteenth centuries, in 1901 a federation of separate states independently governed, but coexisting with a Commonwealth government was established. The Heads of Power in Part V of the Australian constitution describes the powers vested in each level of government. Arguably, the Commonwealth was to assume primacy in key areas but the states continued, hence intergovernmental relations is a critical factor.

Intergovernmental issues loom large in the natural resource management policy arena and began to receive prominence following the early 1980s. The states, which formerly had control of the husbanding of their vegetation assets as we have seen in Chapter 3, then became bound by the actions of the Commonwealth. There were a number of conspicuous developments in the journey towards the Commonwealth‘s strengthened role in vegetation management. Among these are the formation of councils of nature conservation ministers beginning with the Council of Nature Conservation Ministers (CONCOM) subsequently replaced by the Australian New Zealand Environment and Conservation Council (ANZECC) and then replaced by the Natural Resources Management Ministerial Council (NRMMC). There has also been the establishment of a National Framework for the Management and Monitoring of Australian Vegetation; and indirectly, but influentially, the Franklin dams case in the High Court of Australia. The latter was arguably the most significant because it extended the Commonwealth‘s power into areas of state operations by virtue of its external powers. The increase in external treaties and other international obligations, a focus of much public debate during the early 1980s, has in turn put responsibilities back on the states.

There is also a layer of implementation, evaluation and reporting that is carried out by the Commonwealth to fulfil international obligations. The level of activity by the Commonwealth to support these obligations is acknowledged briefly in this chapter because it has a bearing on vegetation policy at all levels, as will be shown. Such activity does ultimately affect state policy however, and the flow-on effect for policy making at the state and territory level is important here as evaluation and feedback occurs at this level. For example, the OECD has prepared two evaluation reports on NRM and evaluated progress against the objectives in the National Strategy for Biodiversity Conservation. In these reports the performance of the states in meeting national biodiversity conservation objectives is examined. While the response to the OECD report emanates from the Commonwealth, the outcomes will naturally influence the Commonwealth's approach to shaping national policy objectives.

The issue of intergovernmental relations in respect to natural resource management is a complex one and worthy of a separate detailed study itself. Recognition of the importance of intergovernmental arrangements in policy formulation and analysis in Australia has been recognised by various authors (Chapman 1997, Fenna 2004, Crabb 2003). With three tiers of government, as well as statutory NRM regions, it is possible that monitoring and evaluation may be more difficult to sustain, with lesson learning opportunities being very sporadic.

5.3 Intercolonial and British Relationships

Following early settlement in New South Wales, the only intergovernmental issues that Australia faced were those between Sydney (New South Wales) and London. This might be characterised as an exploitative stage where vegetation management for its own sake was rarely considered. Vegetation was a resource that yielded commercial products or, more significantly, was something that stood in the way of pasture and crop development. Vegetation had to be removed as expediently and quickly as possible. The use of indigenous plant resources did form some component of commercial trade but the colonies were responsible for their own overseas trade arrangements. Timber was an important exported product from Van Diemens Land and the other colonies. The value of some timber species such as cedar (*Toona australis*) in New South Wales, and Huon Pine (*Lagarostrobus*

franklinii) in Tasmania was quickly realised. This was a time before Brandeis founded scientific forestry in Germany in the nineteenth century in response to the emerging need to manage timber resources for industrial uses. Commercial exploitation of botanical resources had been well under way however, and not only for timber. Kew Botanic Gardens was at the centre of a global trade in seeds, products and horticultural prospective plants. During this early period NSW also exported a vegetable (native spinach, *Tetragonia tetragonoides*) to the Old World where it is now widely grown and is a common garden vegetable in France. Few had initially believed Australia might have anything of immediate commercial interest, but the Royal Navy were always on the lookout for suitable timber for masts and shipbuilding.

Some of the ~~"m~~ining" of vegetation products from the country would have had little or unknown consequences for land management, sustainability, and biosecurity or flora management. Again, all these issues were the responsibility of the separate colonies. Other activities had far-reaching consequences: the virtual depletion of Australian cedar in accessible catchments and the widespread intense fires that destroyed untold amounts of timber. No accurate account of what was lost was made and the lessons from such exploitation took many years to be realised. The most profound effect was the removal of native vegetation for farming and other uses.

5.4 Federation and Partitioning of Responsibility

The system of independent colonies totally in control of their natural resources changed to independent governments with much the same controls intact following federation. The progression towards centralism has been slow but inexorable. It probably began with legislation in 1908 that permitted the Commonwealth to pay surplus revenue into trust accounts and retain much of the customs and excise duties, rather than repatriate it to the states. At the time that the Australian constitution was drawn up, the colonies were responsible for a wide agenda and, moreover, held the power to raise taxes, thereby supporting the belief at federation that it would be driven by the states. During World War II, as a war measure the Commonwealth assumed power from the states to collect income tax. The Commonwealth retained these powers and were able to hand back funding in the

form of conditional grants or special purpose payments (Australian Constitution, Section 96). These were negotiated at State Premiers‘ conferences. This situation continued throughout the post-war years with only subtle shifts in emphasis towards centralism or federalism.

Until the early 1970s, any natural resource management issues, much less any dealing specifically with vegetation, were not particularly visible in the national policy agenda. Vegetation policy remained locked within the consideration of the states. In Tasmania there were no lesson-learning mechanisms except those that could be inferred from annual reports of agricultural and forestry production and other disparate sources. There was no monitoring or evaluation framework for any activities that impacted on vegetation.

With respect to vegetation, this period yields little evidence of any Commonwealth policy that could have acted as a framework for disbursement of Commonwealth funds to the states. Nothing was in place against which any progression in policy or management actions could be measured. There were no apparent benchmarks that existed such as minimum reservation requirements, resource survey targets, research goals or targets, or vegetation conservation outcomes. There were not even clearly articulated and agreed national goals, or a vision for management of Australia‘s vegetation.

A brief review of the Commonwealth–state relations under the national governments after 1972 is given below.

5.5 Whitlam Years: Emergence of a Strong Centralism: “Coercive Federalism”

With the advent of the Whitlam government (1972–1975) came a change in the relationship between the states and the Commonwealth. Whitlam had a strongly centralist approach and the course was set towards an overall trend to centralism or coercive federalism over the next 40 years. The increasing sudden interest by the Commonwealth in how states managed their resources has been described. It began with the Inquiry into the National Estate. There were many recommendations and these led to a specific impact at the state level. Those recommendations (Commonwealth of Australia 1974:335-346) that were the precursors of

state/federal tensions or led to central control or became the focus of major jurisdictional discussion are listed below. These recommendations are extracted from many that extended across all aspects of the natural and built environment.

1. That the Australian Government give its full support to, and discuss with the states possible help to them in setting up procedures for land-use inventories and regional land-use planning;

2. That the Australian Government ensure that adequate funds are made available to the states and local government for the provision of national parks, nature reserves, state, conservation or environmental parks, urban parks, other classes of reserves;

3. That the Australian Government ensure that adequate funds are made available to the states for the establishment, or strengthening, of administrative and management services and practices for the proper protection of all reserves;

4. That the Australian Government ensure that adequate funds are available to the states for the acquisition of scenic easements, covenants, etc……;

5. That the Australian Government stand ready to use its own powers to acquire easements or covenants for these purposes;

6. That the Australian Government give consideration to the establishment of a system of regional environmental officers, to advise the community on the possible effects of proposed developments and to act as advocates for, and sources of information about, the environment;

7. That the Australian Government, in close consultation with the states, and in full exercise of its powers, take urgent steps for the preservation of Australian Coastal Heritage, including…….strong exercise of export controls to prevent unwise sandmining;

8. That the treaties and conventions…….be examined urgently by the Australian Government, in discussion where necessary with the states, with a

view to their early ratification by Australia and subsequent acceptance of the obligations and principles in them;

9. That the National Estate Commission be established to administer National Estate matters; and

10. That local governing authorities should be able to approach the National Estate Commission for help with particular projects.

As a consequence of one of these recommendations, funds were granted to the states to carry out various studies that might result in identification of areas or sites that should be recommended for the Register of the National Estate. Some of the earliest studies were Tasmanian botanical surveys covering particular vegetation types such as heathlands, wetlands and saltmarsh.

As discussed in Chapter 3, the register was to emerge as a source of tension between Tasmania and the Commonwealth during the work carried out for the Regional Forest Agreement.

5.6 The Fraser Years: A Brief Retreat to "Cooperative Federalism"

The Fraser Government (1975–1983), perhaps in reaction to the Whitlam years, reverted to a federalist approach. Fraser, for example, initiated tax-sharing arrangements for the three levels of government.

The World Heritage Convention came into force in Australia in 1975 following ratification on 22 August 1974 (Barnett 1994).

> In 1979 a Special Program Committee of the Australian National Commission for the United Nations Education, Scientific, and Cultural Organisation (UNESCO) was established to advise the Commonwealth Government on matters relating to the implementation of the World Heritage Convention in Australia. (Barnett 1994:123)

Its main task was to review nominations put up by the states. As early as 1977 Prime Minister Fraser invited state premiers to forward nominations. One of the earliest nominations to the list was a draft nomination for south-west Tasmania that was forwarded to the Commonwealth in 1981 by Premier Lowe. The Australian Government forwarded nominations to the World Heritage Committee in 1980 and 1981 and south-west Tasmania was one of these (Hawke 1979). Problems have

since been flagged in the administrative process of nominations and the relative roles of state and Commonwealth governments (Barnett 1994 pp. 124-126).

5.7 The Hawke Years: Inclusion, Cooperation and Consultation (1983–1991)

During the Hawke government, High Court powers reinforced central power, but politics established the role of targeted compensation payments. It had been argued that:

> The unilateral exercise of the Commonwealth's legal powers in relation to World Heritage Properties will not be the federal government's favoured policy option, regardless of the party that holds office. Such action is politically dangerous, given the history of federal-state relations in Australia. Nevertheless, given the intransigence of certain state governments in the matter of World Heritage listing and the preservation of natural property, the onus is on the Commonwealth, as a signatory to the convention, to fulfil its international obligations. Unilateral action by the Commonwealth may not only be the last legal resort but also one of the last opportunities to protect the integrity of World Heritage quality natural areas and hence, Australia's wilderness of universal significance. (Hall 1992:126)

Although Hall could have been discussing any listing the argument, in its context, reveals an implicit assumption that the Tasmanian Government was a reluctant party to World Heritage listing. The nomination of the Tasmanian Wilderness World Heritage Area was a state government initiative by the Lowe Labor government. The original nomination as drafted by the state was virtually unmodified in its subsequent form as the Australian Government's nomination that was forwarded to UNESCO.

Thus where state and Commonwealth decided that particular actions were of mutual interest, action could be achieved relatively easily. Some early attempts at cooperation and consultation to achieve a national outcome for vegetation came early in the 1980s.

Intergovernmental integration of statutory and non-statutory policy instruments can be achieved in different ways. Such instruments can be developed unilaterally by each state, or harmonisation of policy instruments can be sought. Alternatively, uniform legislation and national policies could be developed either in a top-down approach or in a collaborative framework. An early proposal for uniform flora legislation and guidelines for their development across all states was proposed in

1983 (Good and Leigh 1983). This was prepared by a national coordinating committee called the Ad Hoc Working Group on Endangered Flora under the auspices of the Council of Nature Conservation Ministers (CONCOM), a direct predecessor of the current NRM Ministerial Council. The Ad Hoc Working Group on Endangered Flora prepared a useful report because it summarised the flora and vegetation legislation then in place and the major pressures on flora conservation. The report stemmed from a basic concern that there was a considerable pressure on wild populations of some plants being exerted by commercial collecting for the floriculture and seed trade. While the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) was recognised for controlling the export of some species, most taxa were not covered and were likely to be most threatened by pressures such as land clearing.

The Ad Hoc Working Group used its influence to prepare guidelines for new legislation that prevented the exploitation of within-state and across-state loopholes by the commercial floriculture trade. There were 23 provisions that were suggested should be adopted by new legislation that encompassed designation of native flora, restrictions on trade and control on harvesting of wild populations. The legislation never eventuated, almost certainly demonstrating the inherent weakness of policy recommendations coming out of a group of technical experts with no head of power for promoting such recommendations, or any umbrella policy committee who could have championed the proposals.

In retrospect, Good and Leigh‘s proposal was bold but premature. This may have been partly due to the absence of a policy driver such as exists now through the COAG framework. A number of issues canvassed in the report have subsequently been the subject of major public debates, with vegetation clearing as the best example. Other issues are being addressed over 25 years later. A national Flora Management Network, for example, is still dealing with a coordinated national approach to wild flora harvesting. This group originated as a bottom-up response within the state and federal bureaucracies to a need to manage the issue for state and Commonwealth purposes. The group then sought and was granted reporting status under the NRM Ministerial Council.

A subsequent impetus to joining state and national policy goals came as a result of the Commonwealth power to grant export licences under its legislation. The question of a woodchip export license arose in 1985 and resulted in a Memorandum of Understanding between the State of Tasmania and the Commonwealth, which resulted in much of the groundwork being accomplished for the Regional Forest Agreement process that emerged a decade later. In seeking to export timber products the Commonwealth required what, at the time, seemed like a broad-ranging assessment of the likely impacts of timber harvesting on a range of natural values. The state could not export timber without having an export licence, which was in the Commonwealth's power to issue. This was the first occasion where commercial impacts on the native vegetation and other natural values were assessed in Tasmania under an environmental impact statement. Duncan (1985) prepared a report that assessed impacts but did not specify measures or indicators against which future policy settings for the industry could be assessed. However, the relationship between national and state governments in relation to natural resource management was being consolidated in a national cooperative approach.

Hawke crystallised his approach to Commonwealth–state relations in respect of the environment in a Prime Ministerial statement in 1989 (Hawke 1989). The statement recognised the primacy of the states and territories, under the Australian Constitution, in protecting and managing the environment. It also recognised the national scale of most problems and the shortcomings of a piecemeal approach. It foreshadowed national consultative forums for discussing the problems and carrying out joint studies. The first was the Australian New Zealand Environment Consultative Committee (ANZECC). This was the impetus for the consultative committee framework that survives to this day as the committee structure under the Council of Australian Governments (COAG). Under the Hawke government (1983–91), COAG was subsequently born from a number of Special Premiers' conferences.

Arguably, it was the groundwork laid down by the Hawke government that led to the establishment of the COAG process. Issues tabled at COAG are normally agreed prior to the meeting and are politically visible ones such as health funding, hospitals, water reform, energy, and education reform. However, the involvement

of the Commonwealth in natural resource management, while perhaps not as historically prominent as major social issues, is certainly increasing. Major reforms across the states are linked to the funding arrangements for the states. The so-called vertical fiscal imbalance has created a situation where the Commonwealth is able to redistribute funds to the states with conditions that match national policy objectives.

5.8 The Keating Years: Focus on the National Stage (1991–1996)

This period was characterised by a national approach to natural resource management, including vegetation issues. The preparations for Commonwealth involvement in forestry issues began during this time. This was partly manifested as a resolution to develop Regional Forest Agreements based on thorough inventories of all values in the regions. Keating gave a very "centralist" speech to the National Press Club in October 1991 (mentioned in Toyne 1994:14). He said that the Commonwealth was surrendering hard-won powers to the states (especially control of revenue) and attacked "New Federalism". Despite this, early in his term (1992) Keating signed the Intergovernmental Agreement on the Environment (IGAE), which had been germinated during the more consensual Hawke years. The IGAE dealt with a range of matters pertinent to vegetation management including resource assessment and WHA listings and bound the Commonwealth to a more consultative approach.

The relevance of the IGAE was preceded by the communication of four principles by the Premiers and chief ministers (Heads of Government of the States and Territories of Australia 1991):

- The Australian Nation principle—recognition of the imperatives of nationhood and the need for cooperative resolution of national issues;
- The Subsidiarity principle—maximum devolution of responsibility for regulations consistent with the national interest;
- The Structural Efficiency principle—structural public sector reform to eliminate inefficient Commonwealth–state divisions of functions; and
- The Accountability principle—intergovernmental arrangements should be conducive to government transparency and accountability.

Advances in a national approach to natural resource management issues can be seen against a background of the wave of major micro economic reforms in the Hawke and Keating (1991–1996) governments, as demonstrated by national competition policy, and uniform food labelling and rail and energy grids.

5.9 The Howard Years: Centralism to the Fore (1996–2007)

The Howard Government (1996–2007) took a more centralist approach with the states—his "aspirational nationalism" approach. Centralism gained ground under Howard but its progress was aided by funded assistance to the states to buy in the cooperative element that really lubricated the process. The genesis of this approach can be found in Hawke's inclusiveness as far as the states were concerned.

The Regional Forest Agreements had the potential to manifest as the ultimate cooperative position that emerged from the Commonwealth's power to issue an export licence. This power is exerted on all the products from wallabies to tree ferns to timber for which there is an export demand. A management plan is required by the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999* that must demonstrate ecological sustainability.

Demonstration of such sustainability requires basis scientific data. While the 1970s and, to a lesser extent, the 1980s was a period of basic data collection for vegetation, the succeeding two decades was marked by national shifts towards exploring vegetation management options. There were many examples in the vegetation arena. Many national policy initiatives (see Table 13 for examples) for vegetation management were promulgated during this period. After extensive efforts to determine the structure, composition and extent of native vegetation, the focus turned to how to classify it, and manage it. Classification of the vegetation became a central issue in developing the RFA because areas of important conservation values needed to be identified and reserved, while other areas suitable for production forestry could be identified. The classification into reserve and other tenures was not always straightforward and the example of National Estate status is worth discussion because it raises what have been awkward issues at the intersection of state and Commonwealth responsibility.

The question of the Register of the National Estate emerged during the RFA process but it was a flawed process on a number of counts. Nominations could come from any quarter and listings would be made whether or not the state agreed. There was no orderly process for coordinating and initiating nominations from the state. The result was a map coloured in with vast areas supposedly having national estate value. The areas ranged from discrete sites with specific values to vast areas having values that are indistinct. The office of the National Estate was subsequently overhauled; the provisions of the Act revised and incorporated into the EPBC Act and all existing listed areas as at around 1997 were archived and not carried forward under the new Act. A fresh and more systematic approach to national estate nominations was instigated.

Table 13: Examples of national policy and technical initiatives for uniform vegetation and flora management

Initiative	Date	Reference
A National Approach to Firewood Collection and Use in Australia	June 2001	ANZECC (2001)
A National Framework for Assessing the Magnitude and Purpose of Revegetation Activities across Regional Australia	2002	National Resource Management Ministerial Council (2002)
National Framework and Guidance for Describing the Ecological Character of Australian RAMSAR Wetlands	2008	Department of Environment, Water, Heritage and the Arts (2008)
Directions for the National Reserve System – A Partnership Approach	2005	National Resource Management Ministerial Council (2005)
National Local Government Biodiversity Strategy	1999	Berwick (1999)
National Strategy for the Conservation of Australian Species and Communities Threatened with Extinction	1992	Commonwealth of Australia (1992)

Note: for a more extensive list see Williams *et al*. 2001, pp. 31-32

5.9.1 NRM and the Devolved Model

The NRM framework has emerged from the first stage of the Natural Heritage Trust Program (DPIE & Environment Australia 1997). This program has been previously examined by Crowley (2001).

The establishment of the Natural Heritage Trust and the Commonwealth Government's desire to devolve funding down to a local level led to the establishment of the NRM regions, which are constituted under respective state Acts and governed by statutory boards or committee. The three tiers of Australian government have been adjusting to the new means of delivering the Natural Heritage Trust through NRM regions. This model has the potential to increase NRM dialogue between the Commonwealth and regions within a state jurisdiction. The role of the state governments in this arrangement is still evolving. A collaborative project between Greening Australia and the Australian Local Government Association resulted in an important milestone towards the integration of regional and local initiatives and the eventual establishment of the NRM model. The resulting report (Dore and Woodhill 1999) yielded 48 recommendations encompassing a range of issues but urging structural, administrative and resourcing themes among others. This report was no doubt influential in shaping the development of the NRM regional framework model, as many of the recommendations have been implemented in one form or another.

In the summary of contemporary institutional and policy arrangements, the status report for Tasmania clearly saw integration or "joined-up" policy as a priority in the environmental management sector:

> It is to be hoped that, under the new DPIW, the environmental planning system (from DELM) is integrated with the efforts of the NHT Unit and the ICM policy (from DPIF) to give Tasmania a much improved overall system for integrating environmental management; and also for integrating economic development, environmental management and the functions of local government. (Dore and Woodhill 1999:72)

More engagement of local communities and local government was sought in the process of disbursing Natural Heritage Trust funds for on-ground action. The motivation for the Commonwealth's new emphasis on direct funding to regions is not fully explored here, but cynical commentators have suggested the model allowed a direct appeal to voters through "pork-barrelling" funding. Perhaps more considered opinion, however, supported the model because it provided for the engagement of local communities in fixing NRM problems. The relationship between the NRM regions and local government is a vexed one with local

government seen in different ways, perhaps most thoroughly explored by Wild River (2002).

Crowley (2001) has illustrated the policy-learning opportunity provided by the evolution of the NHT Program through successive stages in a paper in which the problems and achievements of the NHT program are examined. This paper was prepared shortly after a Commonwealth-initiated mid-term review of the program. Among many recommendations that review contained strong criticism of the lack of appropriate evaluation and monitoring, thereby crippling any attempts to gauge effectiveness of the program. While applauding the program as being politically savvy and a move in the right direction, Crowley therefore claims the policy-learning opportunities had been lost, because no measure of on-ground effectiveness was available, and it was therefore flawed as a demonstration of effective federalism.

There is no doubt that in the current NHT round monitoring and evaluation has been prominent. The negotiations for the next round are in progress as this is being written and the entrenching of a thorough monitoring and evaluation framework would be likely to loom large (Blair Wood, former Director, National Land and Water Resources Audit, pers. comm. 20 February 2007). Australia‘s State of the Environment Report for 2006 (Beeton *et al.* 2006), however, was critical of the lack of indicators that were consistently measured across the nation. The authors of the report considered that this hampered their evaluation of change across a number of themes, including natural resource areas such as vegetation. Effectiveness of intergovernmental effort in native vegetation management can also be gauged by the extent to which indicators and targets within the NRM framework are mutually supportive and reinforcing across the three tiers of operation—Australian government, Tasmanian government and NRM region. If the system of targets and indicators was working then such efforts should be reflected in lack of perverse on-ground outcomes, well targeted on-ground actions, and minimal waste (duplication and leakage) of funds and resources.

I will now examine the indicator framework as it operates across the Tasmanian NRM regions. Vegetation outcomes are spread across a number of indicators including significant species and weeds and pests. For this exercise this thesis

confines its discussion to the matters covered by the National Indicators for Vegetation, as determined by the Executive Steering Committee for Australian Vegetation Information, an NRM National Coordinating Committee reporting to the NRM Policies and Programs Committee.

The approach at the national level aimed at having a small number of robust, clear and well-defined sets of national indicators that, if measured at intervals over time, would clearly reflect the trends in the resource condition targets. A small number was considered sensible so that effort could be directed at getting a clear picture of some fundamental and key aspects. Erecting many indicators was seen as possibly diluting effort and might lead to uneven acceptance of indicators, and variable enthusiasm for measuring particular ones at the regional level. This contrasted with some other theme areas. For example, in the coastal and marine estuarine theme, there were numerous indicators—over 70 to begin with, later reduced to less than 40. Particular scientists may have seen the presence of indicators as possible triggers for funding of measurement and research.

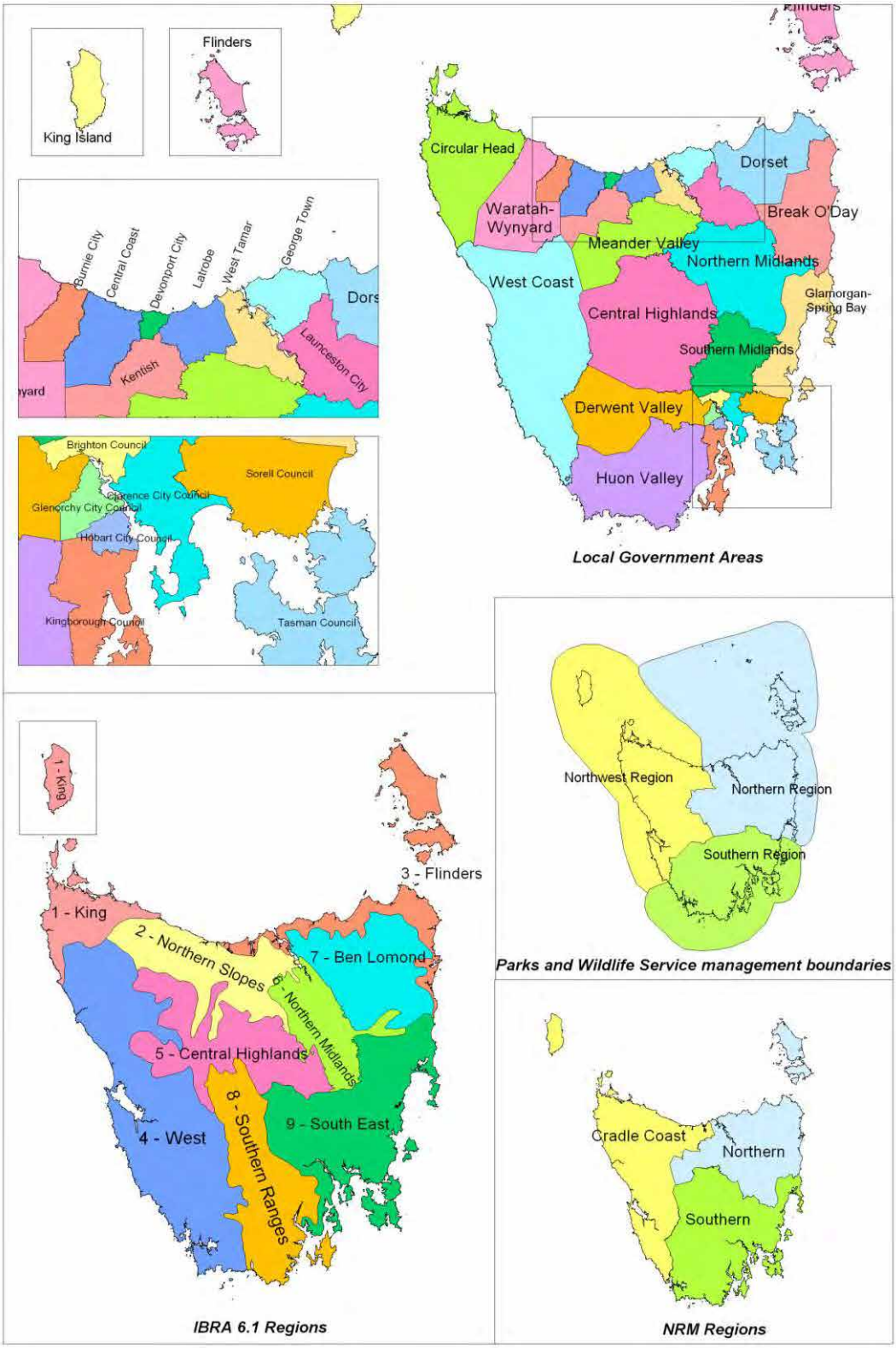
While much of the discussion in this chapter has been devoted to the relationship between state and federal governments and the role of the regional NRM bodies, the relationship between state and local governments is just as critical but has received less commentary. Yet this relationship is likely to be a fertile field for improvements in vegetation management. The relationship between local government areas and NRM regions has not been thoroughly investigated here and it remains to be seen how complementary the interests of these two types of entities are. Local government is represented on the three Tasmanian NRM regional bodies.

Su Wild River (2002) has highlighted the role of local government in her publications. She highlighted the mutual contradiction of principles that Australian local governments on the one hand are statutory agencies within Australian states with powers that are ascribed to them by the states, and the principle that they are independent agencies. Their activities and achievements often reach beyond their regulatory powers, a factor attributable to their closeness with local issues.

In Tasmania these entities operate at roughly the same scale, although there are only three NRM regions and 29 local government entities (see Figure 4). The further

amalgamation of local government areas has been shelved due to strong local opposition to the proposals. Consequently, NRM regions represent the regional concerns for biodiversity conservation while the local governments have a range of responsibilities under their own Act and regulations, as well as ensuring compliance with state environmental and natural resource management legislation. Local government, for example, plays a prominent role in enforcing the weed regulations on properties under its control. In one NRM region (NRM South) in Tasmania, there are 12 local governments. How could they be expected to seriously provide any leadership or coordinating role when the areas of some are so small? The tripartite division of funding under the second stage of the Natural Heritage Trust program always had the potential to cause problems. The national pool of funding was for more strategic expenditure and could be shared by Commonwealth and state bureaucracies. The state funds formed the smallest part of the expenditure with most going to the NRM regions on the basis of their locally developed investment strategies. The state government had opportunities for influencing the investment plans through invitation to officers in the Department of Primary Industries and Water to comment on drafts and provide guidance. Local governments are extending their reach into active vegetation management through exertion of powers allowed by the planning schemes. The model planning scheme devised described in the previous chapter allows individual local government planning schemes to append schedules for different management issues and values. The vegetation schedule has been adopted with differing levels of enthusiasm across the regions. Revision of planning schemes probably still struggles to keep pace with community expectations.

Figure 4: Map of Local Government Areas, NRM regions, Parks and Wildlife Service management boundaries and bioregions (IBRA 6.1)



5.9.2 Indicators, Monitoring and Evaluation: Tools for Policy and Program Learning

The opportunities for policy learning should be driven fundamentally by the monitoring and evaluation framework. This seems easier said than done because there has been considerable effort nationally in establishing such a framework with measurable indicators. Those listed below are indicators that can be used to assess desired outcomes. For example, the remaining extent of native vegetation would be used to assess an outcome about no loss of remaining native vegetation. Such measures go some way to evaluating the effectiveness of broad policy settings and programs. More detail in a monitoring and evaluation framework could help in fine-tuning policies and programs, but some rigour is required in designing the monitoring and evaluation framework and discipline is required to ensure it is implemented in all its stages from measurement to adjustment of policy settings. The vegetation indicators (National Land and Water Resources Audit 2007) are listed below.

- Indicator 1: The remaining extent of native vegetation;
- Indicator 2: The remaining extent of native vegetation types;
- Indicator 3: The remaining extent of native vegetation types compared to pre-1750 vegetation; and
- Indicator 4: The proportion of remaining native vegetation in specified condition classes.

Other closely related indicators that incorporate vegetation and flora can be found in the *Status of natural resource information* series published by the National Land and Water Resources Audit, particularly those dealing with significant invasive species (weeds) and significant native species.

These indicators are very imperfect drivers of work. The Commonwealth clearly require targeted investment, particularly favoured would be those focused towards actions that address any of the monitoring and evaluation indicators. The problems with getting feedback on these indicators perhaps illustrate some of the intergovernmental issues. The regions may invest funds in actions they believe will enhance the condition of native vegetation, for example. The condition indicator

(still only with –for advice" status because the NRM Ministerial Council have accepted that the method for measuring condition is still being developed) is recognised as important across governments. The Tasmanian Government has trialled and adopted at the state level, on behalf of NRM regions and some state government programs, an approach that has also been adopted in most other states (notably Victoria, NSW, Western Australia and Queensland). This has been through the influence of the Executive Steering Committee on Australian Vegetation Information (ESCAVI).

The lead Tasmanian agency, DPIPWE, has agreed at the senior management level that it is the appropriate organisation to host a central database to receive site condition scores gathered by NRM region workers, consultants, local governments and state government agency programs. This will enable enough data to accumulate that will, in theory, allow a spatial layer of sites that may eventually be modified in various ways to represent condition. This then gives the state a responsibility in reporting on behalf of all NRM regions on vegetation condition. The wording of the indicator, that requires a measure of change in condition of particular vegetation types in certain condition classes by IBRA region within NRM regions, is the type of information most easily derived from central statewide geographic information systems (GISs).

The fragmentation of reporting on vegetation indicators is a serious issue for Australian vegetation management and is attributed to the devolution of reporting responsibility by the Commonwealth to the individual NRM or CMA regions. Unsurprisingly, there is a huge variation in the capacity and desire of NRM regions to measure and report on indicators to their government NRM coordinators. Widely divergent quality in the regional reporting could be very difficult to manage at the national level when putting together a national view. A national picture of an indicator topic would be difficult to interpret. The trend in the indicator would be more difficult to interpret because of wide differences in such things as methodology and technical delivery.

There is a clear need for national leadership to prevent a possible perverse outcome from developing. This leadership should come from the national coordinating committee on vegetation information (Executive Steering Committee on Australian

Vegetation Information ESCAVI) that have the appropriate mix of skills and are drawn from all jurisdictions. It is an impression that ESCAVI have perhaps not provided sufficient leadership in pushing for more statewide and national reporting at the expense of regional reporting. This may be because the rollout of NHT had viewed the regions as being fundamental. The NHT was region-centric and this was clearly supported strongly in a political sense but it very much dampened the critical role of the committee over this aspect.

In all this discussion the three tiers operating are the Commonwealth government, the state government and, at a regional scale, the NRM regions. Local government is indirectly involved at the regional level by representation on NRM committees. The Commonwealth are setting the agenda and the states are collecting the data for evaluation and learning.

The recent report from the Australian National Audit Office (2007) was very critical of the fact that on-ground outcomes could not be measured to test the efficacy of the funding and delivery model. The Australian National Audit Office (ANAO) found that there was no identifiable nexus between funding and outcomes with respect to the Landcare program prior to the NHT program. The learning from this indicated the need for rigorous monitoring and evaluation but it was not developed and applied as well as would be desirable. Responsibility could be attributed to the imprecision of the monitoring and evaluation framework, the processes for carrying out monitoring and evaluation, and the process for collecting and collating the information. Perhaps the indicators themselves may need refining. In all this perhaps there is a true partnership arrangement missing.

5.9.3 Intensification of the Commonwealth–State Relations Debate

Regardless, the shift towards a more centralist approach has accelerated. The increase in the Commonwealth bureaucracy may be one indicator of an increasing reach into areas that were previously state matters. The appointment of Australian Government Program Commonwealth Coordinators appointed in the states gave a distributed network of bureaucrats able to engage local and state government counterparts on an equal footing as far as local knowledge is concerned. The then Opposition leader in the lead-up to the 2007 federal election, announced emphasis on ~~–e~~ooperative Federalism". However this was contemporaneous with the

announcement of his party's policies that assumed more responsibility for areas previously managed by the states.

Prior to the November 2007 federal election, Commonwealth–state relations became an important issue, demonstrated in the controversy surrounding the Federal takeover of the Mersey Hospital (Sayer 2007). Debate was also vigorous in the financial press, mainly sparked by a Business Council report (Business Council of Australia 2007) about the high cost of the two-tiered approach to division of responsibilities. Their concern was with federal/state overlap in regulations and lack of policy conformity across states. Some of the debate leading up to the election was not so much about a rational examination of Commonwealth–state division of responsibility but a highly politicised debate clouded by what could be mistaken for "pork-barrelling" exercises.

Commonwealth–state relations had been put on the table as a serious focus of policy development. The Business Council of Australia reported (Bassanese 2007) that a fresh approach was required to the division of responsibilities between Commonwealth and state governments that caused confusion, mismatches, ambiguity, overlap, waste and increased cost for business. The report estimated the cost of financial inefficiencies between state and federal governments was about $9 billion per year.

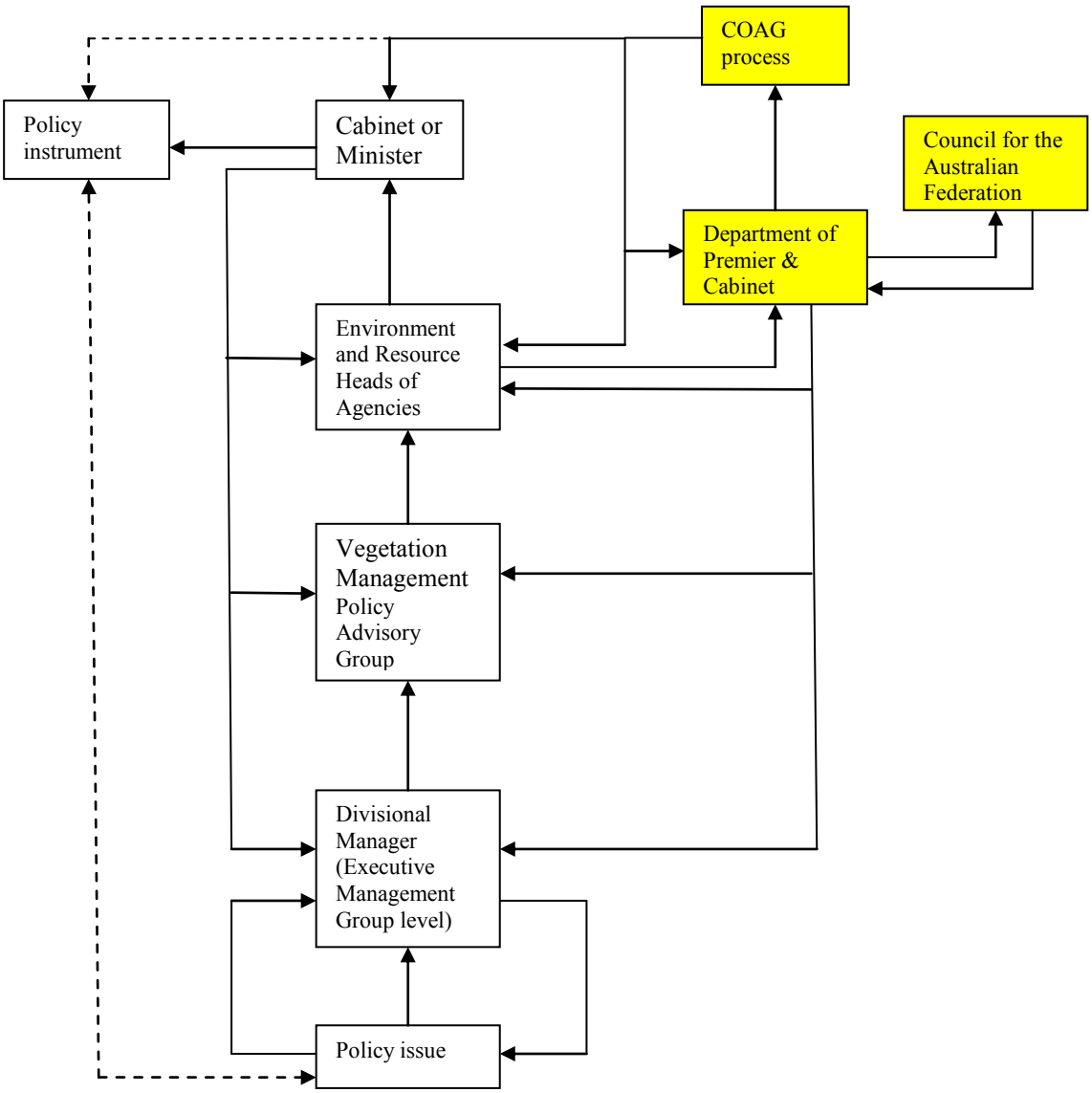
The mechanism for discussion of Commonwealth–state reform was the Council of Australian Governments (COAG) which only met once or twice a year (Bassanese 2007). Bassanese pointed out that (by the end of the Howard Government term of office) "...the federal government is bypassing the states and implementing its own policies at the local level" (2007:25). This writer went on to talk about the need for reform in water and energy policy but did not make it explicit that any policy shortcomings do not relate to neglected areas now simply requiring policy focus, rather than to any state–Federal relations issues. Treasury Secretary Ken Henry urged on the reform agenda through COAG and lamented the lack of progress over the last few years and the lack of courage by states in embracing market mechanisms instead of regulation. Outcomes of programs needed to have greater emphasis (Maher 2008). Henry had given the example of the railways as a sector

where harmonisation of legislation would create cost savings of $2 billion, according to a Productivity Commission report.

Yet other commentators have been concerned about the politicisation of Federal–state relations. Following a (Prime Minister) Howard statement that (Australians) should aim to be ―aspirational nationalists" (Durkin 2007:27) it was reported that constitutional expert Andrew Stewart claimed in recent months the ―Commonwealth showing an appetite for seeking to seize control of policymaking in some…..areas but without a clear plan of who does what" (Durkin 2007:27). The extent to which such unilateralism was driven by government political needs is not known. However, full use of the COAG process should drive a spirit of cooperative federalism. Howard stated that sometimes there would be a requirement of ―bypassing the States altogether and dealing directly with local communities" (Durkin 2007:27). The evolution of the direct funding relationship between the Commonwealth and the NRM regions is a symptom of this view. Other commentators believed there were no checks and balances on Commonwealth power and advocated a fresh look at the Commonwealth system.

The COAG process is an appropriate forum for vegetation policy issues of national importance. The pathway for a vegetation policy issue of potential national importance that is generated in the state is shown in Figure 5.

Figure 5: Simplified schema for one route for a vegetation policy issue.



The issue follows a path out to the top right of the diagram (yellow boxes) if it is an issue of national importance. Feedback and learning iterations cascade back down through various pathways as shown. Less clear pathways are shown as broken lines.

The Howard government sought to have a direct bilateral relationship with all NRM regions, thus bypassing the states. On establishment of the first stage of the Natural Heritage Trust there were clear signals from Commonwealth government officers that the dialogue between the Commonwealth and the regions would be very important. The role of the states was unclear in some respects. As 2007 progressed, the states became increasingly uneasy about the Commonwealth reach of power. The Beattie government in Queensland announced it was embarking on an ~~a~~udit of

the State's agreements with the Commonwealth as part of a push to reform federalism" (Ludlow 2007:8). This occurred at the same time as Ken Henry, then Treasury Secretary, was advocating Commonwealth intervention across a wide range of activities. Henry cited the imperative as "challenges facing economic policy-makers" (Tingle 2007:8) in a big picture context of globalisation (Tingle 2007). Henry believed that federal intervention was particularly warranted because of:

> increasingly challenging issues in the inter-relationships between energy, climate change and water; 'entrenched failures' in environmental management. (Tingle 2008:8)

The federalism versus centralism debate leading up to the 2007 federal election crossed many fields, with one commentator venturing that "schools policy would become a template of Labor's brand of co-operative federalism" though Victorian Premier Brumby branded it "a new era of collaborative nation-building" (Kelly 2007:16). Debate about federalism raged throughout 2007. Even within the Howard government the centralist ideal was not fully shared because there were those "...less given to centralist adventures and more sympathetic to the traditional checks and balances of the federal system" (Pearson 2007:30).

The release of a book by Twomey and Withers (2007) generated further discussion. *Australian Policy Online* also carried further online commentary between federalists and those in a different camp such as spokespersons for the group "Beyond Federation". Cynics such as August (2007) argued for the elusiveness of interstate cooperation demonstrated in the repeated attempts at law harmonisation. However, it could be argued that this position overlooks the huge advances made in the last 20 years with respect to uniform national policy positions in areas such as micro-economic reform. Wilkins (2007) argues against "ad hoc" federalism and for clarity of roles and responsibilities for Commonwealth and state levels of government, being a pre-condition for democratic accountability.

The tensions between state and Commonwealth governments escalated to a level previously unobserved when the 2007 Federal election was imminent. A series of politically provocative and unilateral actions by the Commonwealth Government during this period, called into question the notion of cooperative Federalism. The

announcement of a projected takeover of funding for a Tasmanian regional hospital, the intervention on Aboriginal health and welfare by the Commonwealth across several states, were amongst measures that put the Commonwealth at the centre of decision-making in areas that had previously been considered as the policy province of the states. The extent to which these actions were the result of lesson learning by the Commonwealth or symptoms of a need for spectacular displays of pre-election initiative and boldness might be indicated by the record of COAG reforms in quieter times. COAG had already successfully and cooperatively negotiated reform of the national electricity grid and a host of other reforms.

5.10 Rudd Government: A New Rhetoric of "Partnerships" (2007–2010)

Since the inception of the Rudd government, there are new specific purpose grants for various spending measures across the economy in areas such as roads and water development with performance targets attached. This could see the states becoming an ―administrative arm of the Commonwealth" (Wiltshire 2008:62). Wiltshire (2008) proclaims a sense of shared vision as being the main ingredient required for success in the COAG process. Such shared vision was evident at the Council for the Australian Federation meeting on 21 February 2008, the Premiers and Chief Ministers of Australian states and territories at this meeting reaffirmed their commitment (Department of Premier and Cabinet 2008) to cooperative federalism

The concern with federal/state relations was not just a pre-election issue that was going to go away. In February 2008 the Rudd government's Federal Treasury proposed an overhaul of the annual funding to the states. The effect of the overhaul is to simplify the mechanism by reducing the number of specific-purpose payments across different sectors of the economy. The current 89 such payments would be reduced to payments for five social issues (such as health care, housing and vocational training). A ―national partnership payment" (Taylor 2008:1) would be introduced that linked funding to achievement by the states of progress in particular policy areas. One commentator suggested that the new funding rules appeared to:

> …leave the way open for continued commonwealth involvement in many policy areas, citing five justifying 'principles' – where the issue was linked to a national objective…, where the benefits of commonwealth involvement extended nationwide. (Taylor 2008:8)

The complexity of arrangements is not necessarily a bad thing in itself. However, for the purposes of this thesis the arrangements need to be conducive to lesson learning. What decreases the likelihood of lesson learning in the existing arrangement of funding and policies being driven down through three levels of government, as well as the NRM regions, is the fragmentation of effort and lack of synergy arising from poor communication and competitive approaches.

An example of the lack of integration in the current approach is demonstrated in the way threatened species are dealt with. Actions consistent with policy and legislation do not always happen at the local government level because of highly variable skills, understanding, resources and enthusiasm across local government, and lack of guidelines and protocols. Instances of imminent damage to local populations of threatened species as a result of local government uncertainty are known. The management of threatened species could be improved if there was a formal agreement in place between the state government and the local government. Provision for this exists in the form of a Public Authority Management Agreement (PAMA) under the *Threatened Species Protection Act 1995*. A single PAMA could be prepared for all the councils for example. The implementation of any on-ground threatened species protection would still require certain skills. Presently, only some local governments have planning staff who are aware of the legislative implications of threatened species and threatened communities legislation. A standard set of schedules for local government planning schemes has only just been drafted as a result of a planning directive from the Resource Planning and Development Commission that local government planning schemes use a standard template.

This discussion leads into the requirements in the first Rudd government‘s ―Caring for Our Country” program, which promises expanded commitments to monitoring and evaluation. In other words, increasing emphasis on the need to know whether investment is causing achievements on the ground. The abandonment of the national indicators framework (Monitoring, Evaluation, and Reporting Indicators) under the Natural Heritage Trust Program coincided with the transition to the Rudd government‘s new program which proclaims ―clear, measurable targets” (Commonwealth of Australia 2010). Whether the setting of outcomes will enable a

–real and measurable difference" (Commonwealth of Australia 2008) to be assessed over short periods of say, 3, 5 or 10 years, remains to be seen.

5.11 International Obligations

Australia's international responsibilities and commitments, relevant to vegetation management, are diverse. Some of the principal national policy instruments (see Table 14) contain measures designed to respond to international obligations or at least serve to answer some of those obligations.

Table 14: Australian Government instruments relevant to Tasmanian vegetation

Instrument	Current?	Description
Australian Heritage Commission Act 1975	yes	Sets out provisions for protection and management of heritage considered to be of national significance and covers Aboriginal and European heritage as well as (but less so) natural heritage sites
Environment Protection and Biodiversity Conservation Act 1999	yes	All-encompassing legislation for Commonwealth responsibilities covering biodiversity
Lemonthyme and Southern Forests (Commission of Inquiry) Act 1987.	no	Set the terms for a Commonwealth Inquiry into logging and the boundary of the World Heritage Area in Southern Tasmania
Native Title Act 1993	yes	(not legally relevant in Tasmania because of discontinuity in traditional land use. This interpretation is contested by the TAC)
Resource Assessment Commission Act 1989	no	Allowed for national assessments of particular resources to underpin decision-making
The World Heritage Properties Conservation Act 1983.	yes	Provides for management of World Heritage Areas
Natural Resource Management (Financial Assistance) Act 1992	yes	Sets out provisions under which funding is transferred from the Commonwealth under the NHT programs
Natural Heritage Trust Act 1997	yes	Provides for management, protection and funding of Australia's natural heritage assets

Note: An exhaustive list of Australian Government policy instruments as at 2001 can be found in Williams *et al*. 2001.

The most relevant international agreement is the Convention on Biological Diversity (CBD) that entered into force in 1993. Under the convention processes, considerable investment of effort by parties, including Australia, has been made on a range of measures. Some protocols, guidelines, targets and guiding principles have been developed to which Australia has been a party and which guide national

policy. Some of these include the Cartagena Protocol on Biosafety, the Bonn Guidelines on Access and Benefit Sharing, the Global Strategy for Plant Conservation, the 2010 Target on Biodiversity, Guidelines on Biodiversity and Tourism, and the United Nations Framework Convention on Climate Change.

The alignment of the current national legislation measures in the *Environment Protection and Biodiversity Conservation Act 1999*, despite post-dating the entry into force of the CBD, is not particularly evident. However, the concerns of the relevant articles are covered in one way or another, along with measures responsive to other international obligations. These other obligations include those under the Convention for the Protection of World Cultural and Natural Heritage, the Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar).

Australia reports to all its international obligations and has consequently produced four national reports to the United Nations Convention on Biological Diversity. While the national government‘s role in environmental matters has increased markedly over the last three decades, there is still a tension between the states, who retain responsibility for environmental matters, and the Australian Government whose interests focus on environmental matters of national significance. Such matters of national significance defined in the Act are: World Heritage properties, declared Ramsar wetlands, listed threatened species and communities, listed migratory species, nuclear actions and Commonwealth marine areas. Australia‘s report is therefore a compilation of results from Commonwealth-funded initiatives together with state-funded initiatives. Australia‘s membership of the Organisation for Economic Co-operation and Development (OECD) has brought with it performance reviews and benchmarking across a range of development and standard of living themes. Environmental performance reviews (OECD 2007) have provided comparisons across OECD countries and performance assessments across a range of environmental variables.

5.12 Discussion

The role of the Commonwealth has increased in importance and reach. It grew from the Commonwealth exerting its influence by virtue of powers assumed under its obligations to international agreements. This has partly become manifested in a national coordinating role on vegetation issues—such as driving uniform reporting under NRM, the Native Vegetation Framework measures, reporting for forests, State of Environment reports and Biodiversity assessment reports. At a state level, Tasmania has been responsive in many of these processes. Much activity in the vegetation arena is initiated nationally, albeit developed bilaterally in most instances. The major piece of forest policy has become a *de facto* vegetation management policy framework. However, it is one that partly occupies a void that offers scope for a newly designed vegetation policy framework.

There is a mechanism outside of COAG that can lead towards cooperation across states and territories involving policy transfer, harmonisation of policy instruments and acceptance of common standards. This is the Council for the Australian Federation and the Senior Officers meetings that involve a wider agenda than that which can be managed under the COAG meetings themselves. Despite these forums, major influences and directions are still driven by the Commonwealth because of the highly controlled nature of the process and the limited agenda, which is usually confined to a small number of high profile issues.

Federal–state relations therefore present both obstacles and opportunities. In a centralist framework there is obviously scope for significant advances as policies are harmonised, extra Commonwealth funding is allocated, and initiatives become driven by national and international goals. Cooperation fostered at the highest level gives a lot of impetus to new advances. Twomey (2007) contended that Australians were led to believe that federalism was an inefficient system of government and an impediment to us in economic, social and other ways. She contrasted this with the attitude in other countries of the world as a flexible modern system able to deliver the type of government that is best able to withstand the pressures of global change. Yet there remains the opportunity for a nationally consistent approach, for example through the national coordinating committees of the COAG framework.

There will be gaps that may exist in the vegetation policy landscape that are not picked up in the NRM structure. While NRM has native vegetation as one of its major concerns, there are issues outside the NRM orbit that should properly be considered within the spectrum of the vegetation policy debate and which are relevant in a discussion of intergovernmental relations. A useful role for the Commonwealth is the identification of national issues that have repercussions beyond the country's shores—hence the development of nationally consistent guidelines for access to genetic resources. This contains principles for policy development and leaves the detail to the states. The Commonwealth developed, under these principles, the model Access and Benefit Sharing Agreement to apply to access to genetic resources on Commonwealth land. States commented on the draft instrument while understanding that this was a model that could be adopted by all states, thus closing any loopholes that might exist for foreign bioprospectors.

The development of a vegetation framework must occur through the matrix of federal/state relations. For vegetation, most of the interrelationships come under the NRM Ministerial Council, the NRM Policies and Programs Committee and the range of national coordinating committees reporting to a ministerial council. The tenor of the relationship throughout this working component of the machinery is set by the tone of the Commonwealth's broad approach to federalism. Arguably, in the vegetation theme, there is insufficient harmonisation at the legislative and regulatory level. In contrast, at the lower level of standards, policies, guidelines and procedures there is even more scope for synergies and consistencies. Perhaps the Committee for the Australian Federation is underused at present. It is used as a scoping body for issues that might go up to COAG, but it could also deal with issues only at this level.

Further amalgamation of local government areas is inevitable, certainly in Tasmania where, for example, there are 12 local government areas in the NRM South region alone. Better transport and communications, influx of people from outside the area or the state, have broken down the parochialism of local government allegiance. Better efficiencies will occur with rationalisation of resources and a better rate base to implement on-ground actions.

The lessons learned and carried from one phase of policy development to the next in Tasmania was illustrated in Chapter 3. Since environmental and NRM agreements have been inserted into Commonwealth/state relations there has been something tangible against which to measure progress. While the methods from this measurement and indeed, the results, have arguably been short of satisfactory in some cases, this has been far superior to anything that existed prior to the 1970s.

There has been accelerating debate over the last 2 to 3 years about the future of federalism in Australia. Recent indicators are that there may be more engagement by the Commonwealth of the states through the COAG process. The last Howard Government engaged in one COAG meeting per year, whereas the first Rudd government flagged four COAG meetings in the first year. A federated system allows innovation within states that are willing to pursue groundbreaking policy. Centralism can encourage a lowest common denominator approach in the states and tends to dampen policy innovation. There is some recognition within Tasmanian government circles that the state has been very innovative in its policy development, a circumstance that would not arise if there was uniform centralised policy development.

Despite tied grants and funding with Commonwealth money for about 70 years, no restrictions of any note were applied to vegetation management. The first bringing to account of the states by the Commonwealth was the requirement for environmental impact statements. The development of evaluation and monitoring that could lead to lesson learning has been a recent phenomenon. Yet some perverse outcomes could arise through lack of harmonious mechanisms; for example, the Commonwealth tax relief for vegetation clearing that was in operation.

It is clear from discussion in this chapter, however, that there is a trend towards centralism, concentration of power with the Commonwealth, and a very active Commonwealth role in uniform policy formulation that then binds the states. There have been positive outcomes from the states entering into a national process under COAG—for example the Ministerial Councils and the National Coordinating Committees. It should now be evident that there is much to gain from a cooperative federalist approach, for example through ease of policy transfer, nationally guided monitoring and evaluation systems and other initiatives. The national coordinating

committees were initially constrained by their terms of reference but, as these are developed and modified as necessary by the national coordinating committee and ratified by the Ministerial Council, there is some flexibility in how they define their scope. For the Executive Steering Committee for Australian Vegetation Information, of course, the major focus has been on development of the Monitoring and Evaluation indicators.

The move towards a more centralist or cooperative federalist model in the last two decades or so has benefited the lesson-learning opportunities for vegetation management. The nationally developed frameworks such as the National Framework for Managing and Monitoring of Australia's Vegetation allowed an evaluation framework to be applied to vegetation management in Australia. One such exercise was carried out nationally and this is critically analysed in the next chapter (Chapter 6) and applied to Tasmania as a follow-up trial in this thesis.

The increase in Australian government involvement in vegetation management must be seen as ultimately positive for the states and for the nation. Without central government encouragement it is unlikely the states would have progressed to the stage they have now reached. Moreover, the monitoring, management and evaluation frameworks are better coordinated at a national level to allow consistently collected information which, in turn, allows comparability between jurisdictions and better reporting by Australia in international forums. A recent letter (NLWRA 2008) to the Ministers for Agriculture, Fisheries and Forestry and for Environment, Water, Heritage and the Arts by the Chair of the National Land and Water Resources Council, emphasised that:

> There needs to be a national commitment to the collection of natural resource information against an agreed set of standards. National resource information should be considered a national asset and managed as such to ensure that we have the best available support for making land use decisions that will affect all of the community. (NLWRA 2008:2)

There may be clear benefits in a continuing evolution towards a stronger cooperative federalist approach with some centralisation of broad policy objectives on the one hand, and further integration within states of vegetation policy in a joined-up approach. At the same time there needs to be better clarification of and complementarity within the entities that operate within the states, namely the NRM

regions, local government and the state government. The nature of society outside strictly government business is changing rapidly—the growth of the business sectors, the globalisation of communities and commerce is forcing government to respond in a coordinated way. This, in policy terms, is joined-up government.

Cooperative federalism will work for vegetation policy. The federal role deals with national obligations, a uniform framework, national standards and vision. The state has better on-ground knowledge, the freedom to do the best with the information and find the best policy options for its jurisdiction. A state framework can account for state mechanisms and in better detail than necessarily the lowest common denominator. There remains uncertainty about the future relationships between local government and NRM regions.

At the federal level there are national obligations that are determined, to some extent, by willing participation in international processes. Out of this level the uniform frameworks, national standards and vision arise and mechanisms to evaluate and report on progress are a part of this process. At the state level there needs to be the freedom to get the best information and data and forge the best policy options. A state framework should protect and guide this process. Policy innovation is thus likely to arise and the lowest common denominator approach avoided if states independently pursue policy design. Policy transfer is then free to happen between state jurisdictions and, provided that this happens within a broadly articulated set of national goals and priorities, then real progress will be an outcome.

There is a gradual evolution to policy convergence in Australia and this is aided by the COAG process and the system of Ministerial councils and working groups. There is not only the effort at harmonisation but also a more subtle process at work through the networks and interaction among actors participating in the technical and policy groups. Cross-fertilisation of ideas will arise from this process, particularly where the outcomes are clearly articulated such as they are in vegetation management through the Monitoring and Evaluation Resource Indicator (MERI) framework, and the existence of a range of benchmarks and indicators. These include, for example, the JANIS criteria for a comprehensive, adequate and

representative reserve system and the 30% rule (James and Saunders 2001) as a minimum native vegetation landscape cover.

Joined-up policy within a jurisdiction does bear a relationship to Commonwealth–state relations, sometimes in ways not immediately obvious. For example, a comparison of NSW and Tasmania is instructive in this respect. NSW has a technical vegetation science capacity spread across a number of departments to the extent that different vegetation mapping programs using different scales and mapping units lead to incompatible mapping. The Commonwealth found it challenging to liaise with NSW in securing progress on further mapping, as well as integrating disparate mapping types into the National Vegetation Information System. Tasmania, by contrast, has one vegetation map and also has its area completely covered by a Regional Forest Agreement, whereas only part of NSW (the south-east) is covered by a Regional Forest Agreement.

Parkin and Anderson (2007), observing the enhanced role of the Commonwealth throughout the period of the Howard government, noted that there was still enough of an entrenched rigidity in the federal system that would "continue to make intergovernmental collaboration, rather than confrontation, a sensible strategy" (Parkin and Anderson 2007:310).

5.13 Conclusion

Intergovernmental relations, particularly between Commonwealth and state governments will continue to influence the development of vegetation policy, perhaps more than any other factor. As this thesis is being written, the revised Native Vegetation Framework is being developed jointly in tandem with the Commonwealth's overarching Biodiversity Strategy, by all state and territory jurisdictions and the Commonwealth. With its head of power deriving from the Natural Resource Policy and Programs Committee and the Natural Resource Management Ministerial Council under the Council of Australian Governments Framework, the imperative driver is Article 6 of the Convention on Biological Diversity. Australian Government responsibilities will continue to exert top-down influence over vegetation policy through national obligations to international instruments.

At the same time, the vertical fiscal imbalance adds to the national influence over the natural resource management agenda. This is exerted through the incentive of funding of programs delivered in the states and territories. The apparently strong movement towards national harmonisation of statutes and policy is affecting all policy themes. It is argued here that there are great benefits towards nationally consistent approaches and some reporting framework common to all. Similarly, the development of consistency in basic theme information is important for national reporting and therefore needs vertical integration to get cost-effective collection and management of data.

It is also argued here that policy innovation is best encouraged by some policy development autonomy in each of the states and territories. This can be done within the broad settings described in the preceding paragraphs. There is a strong policy-learning process associated with the national programs set up to deliver on the National Biodiversity Strategy. This is achieved through reporting requirements and frequent policy and program review. Within this context some jurisdictions can seek the best policy solutions to vegetation issues that might have a strong regional or state character. The intergovernmental relations between state and local government, I suggest, allow scope for micro and meso policy gains and the achievement of real outcomes in vegetation management. There is also a need for integration of policy across and between different levels of government.

5.14 Chapter Summary

The role of the Commonwealth across natural resource policy issues has increased considerably since the external affairs power was invoked in the Franklin Dam case. Australia‘s international obligations have a direct bearing now on vegetation management at the state level. The Commonwealth has increased its reach by assuming an agenda-setting and coordinating role in respect of vegetation policy. There is also more cross-jurisdictional interaction through the Council of Australian Governments process contributing to a gradual evolution to policy convergence. Agenda-setting by the Commonwealth has been increasing since the 1980s and is assisted by the vertical fiscal imbalance whereby the Commonwealth has funding power over the state and territory jurisdictions. Australia‘s international obligations help to drive an agenda down to the states through the Native Vegetation

Framework, and bilateral agreements such as the Regional Forest Agreement where the Commonwealth's position is strengthened by virtue of its power to grant export licences. Some policy autonomy in the states is desirable for policy innovation and there are ways to achieve more policy harmony while encouraging such autonomy. In the light of this strengthened Commonwealth agenda-setting, recent policy developments require evaluation to see to what extent the state response has been coordinated, and what policy gaps may have remained in the process. This task will be dealt with in the next chapter.

CHAPTER SIX

TASMANIAN VEGETATION POLICY: A CRITICAL ANALYSIS.

6.1 Chapter Aims

In this chapter an existing policy framework will be used to assess progress on a spectrum of vegetation management issues over a period of time. The strengths and weaknesses in this assessment will be briefly examined; this will allow a lesson-learning approach to the vegetation management and policy program to see what has worked and what has not. A gap analysis will then be conducted using a list of basic principles. These principles encompass all the concerns in the relevant articles of the Convention on Biological Diversity (CBD). This chapter then proposes a new framework for Tasmania.

Some background information on policy frameworks and their characteristics will be given as a backdrop to integrated policy for Tasmanian vegetation management.

A new framework should attempt to address the missing vegetation policy elements, including those in relation to sustainable use and the satisfaction of Millennium Ecosystem Assessment goals relating to —a healthy productive life" for the human population. As well as integrating a broad range of elements, a proposed framework should build in the capacity for lesson learning, particularly learning continuity. Such a framework will also need to vertically integrate with national obligations.

Introduction

In this chapter, any evidence of policy learning is sought and evaluated by examining as many initiatives and developments in vegetation management as possible during the period 1999 to 2008. Whether or not there was much evidence for policy learning, the opportunities that were presented and what this augurs for a vegetation management framework will be considered. This chapter differs from Chapter 4 in that a more forensic approach is taken by gathering a list of initiatives over a particular period through a framework constructed in a Commonwealth Government-driven process of learning. While a major outcome of this thesis is the proposition of a new vegetation management framework for Tasmania, this should

not be confused with the Commonwealth's development of the native vegetation framework published in 1999, nor the subsequent documents produced under that framework. The Commonwealth framework, however, is used as a tool in this chapter for lesson-learning evaluation.

The analysis in this chapter will also indicate what the existing policy framework and implementing machinery (see Chapter 4) yields in terms of policy outcomes as a basis for policy gap analysis. As seen so far, the major policy impetus for vegetation management in Tasmania is generated from the Commonwealth, albeit often in partnership with the state. The result would be "top-down" driven outcomes.

6.2 National and International Contexts for Tasmanian Vegetation Policy

Much of what the state could aspire to in this policy field, in terms of the vegetation policy framework proposed here, will need to be responsive to national requirements. Requirements or obligations under various international instruments will often drive these in turn. It is useful to look at the goals, focal areas, targets or priority areas of these. Ideally, we could expect a nested hierarchy of elements.

At the broadest level, it is useful to begin with the conceptual framework of the Millennium Ecosystem Assessment (2005), which has four principal elements dealing with direct and indirect drivers of change, human wellbeing, and ecosystem services. Within the latter category there are four services provided by ecosystems—termed provisioning, regulating, cultural and supporting services. The noteworthy aspect of the Millennium Ecosystem Assessment approach is that it is human-centred, not at the expense of ecosystem values but recognising that human standard of living is bound up in the care of ecosystems. The principles of ecologically sustainable development pervade the Millennium Ecosystem Assessment approach. There is recognition of the need for local communities to be sustained by ecosystem provisions and services, while such ecosystems themselves are sustained.

The Convention on Biological Diversity (CBD) requested the Millennium Ecosystem Assessment be undertaken to assist its own work but the Convention has more direct influence over our policy because it is a formal instrument. The

Convention, to which Australia is a signatory, is expressed in 42 articles. Apart from those dealing with the machinery of implementation and process, there are 14 (Articles 6–19) that can be applied directly as headings for vegetation management. These are shown in Table 15. Each measure can be linked to the measures of the Australian Biodiversity Strategy and the goals and actions in the draft of Australia‘s Native Vegetation Framework. The Caring for Our Country national priority areas (Commonwealth of Australia 2008) are linked to most of the Articles. The particularly strong linkages are: building ecosystem resilience (link to Article 8); knowledge for all (Articles 7 and 13); getting results (all, but discoverable through actions under Article 7; involving indigenous people (a cross-cutting theme in several Articles particularly those dealing with protection or use of indigenous knowledge); and measuring success (Article 7).

The Global Strategy for Plant Conservation is an international framework for policy makers and references itself to the CBD. There are 16 targets that are measurable and the strategy is output-oriented. The strategy is also species-oriented and the Gran Canaria Declaration (Gran Canaria Declaration II, 2006) is an attendant document dealing specifically with climate change and plant conservation, invoking *ex situ* conservation strategies in particular. There are a number of guidelines and initiatives erected to help parties in their work. These include the Bonn Guidelines for Access and Benefit Sharing, the Addis Ababa Principles and Guidelines for Sustainable Use, the Global Taxonomy Initiative, and the Global Strategy for Plant Conservation to name only a few. Part of Australia‘s response to the climate change threat is described in a document by Council of Heads of Australian Botanic Gardens (2008).

Table 15: Articles of the Convention on Biological Diversity Relevant to Developing a Vegetation Framework, and their typification

Article number	Name of Article	Typification
6	General measures for Conservation and Sustainable Use	Strategies, plans
7	Identification and monitoring	Evaluation and feedback
8	In-situ conservation	Tools
9	Ex-situ conservation	Tools
10	Sustainable use of Components of Biodiversity	Sustainable economy
11	Incentive measures	Tools
12	Research and training	Knowledge
13	Public education and awareness	Social learning
14	Impact Assessment and Minimizing Adverse Impacts	Management
15	Access to Genetic Resources	Sustainable economy
16	Access to and Transfer of Technology	Sustainable economy
17	Exchange of Information	Tools
18	Technical and Scientific Cooperation	Knowledge
19	Handling of Biotechnology and Distribution of its Benefits	Sustainable economy

Despite the problems and pitfalls of international policymaking (a discussion of which is beyond the scope of this thesis) providing drivers for national and sub-national policy, the Convention on Biological Diversity is one of the most widely supported and well established of instruments at this level. The Convention also supports a range of other protocols and guidelines that directly influence Australia‘s approach to aspects of vegetation management (e.g. Bonn Guidelines). The CBD Articles thereby provide a reference, to which can be mapped the provisions in a new state vegetation policy framework.

The RFA expires in 2017, the Commonwealth implementing mechanism—the *Environment Protection and Biodiversity Conservation Act 1999*—will have been recently revised and the demands on vegetation managers will have increased as the demands on vegetation for multiple sustainable benefits become more pressing. The history of Tasmanian vegetation management falls into some broad phases, which were identified in Chapter 3. A watershed occurred when shifts in societal attitudes

in the late 1960s led to a rapid increase in measures that directly or indirectly assisted vegetation management. The most significant was the *National Parks and Wildlife Act 1970.*

In Chapter 5 it was argued that Tasmania's policy developed, particularly after the 1990s, as a series of responses to Commonwealth agenda-setting, driven largely by national responsibilities under various international conventions, treaties and agreements. The Commonwealth began asserting control and direction over natural resource management in the states from the 1980s and 1990s. The direction provided for vegetation management is a good example of this. As was also demonstrated in Chapters 5, the interrelationship between the tiers of government is still being defined. It is clear that the Australian Government will bring to bear more influence on natural resource management decisions, its arm strengthened by the resourcing it receives from the vertical fiscal imbalance and the programs it is therefore able to fund, as well as the momentum towards national coordination. However, the Commonwealth does not always act unilaterally and the nature of measures developed for strategic national planning around vegetation have been advanced at policy and technical levels in conjunction with state officials, through the Council of Australian Governments framework.

Monitoring, evaluation and feedback in the development of vegetation presently occurs mainly at the programs and projects level. However, the main policy framework, the Regional Forest Agreement, has a review and policy learning provision provided for in the five-yearly reviews. Overall however, the current failures and missing opportunities for lesson learning result perhaps from many reviews and evaluations in a disjointed policy landscape, as well as no satisfactory response to the question: who learns?

The current vegetation management policy framework can be viewed at three levels: the macro (national), the meso (state) and the micro (on-ground, implementation policies, NRM and local government, within state activities of narrow scope). The national activities are driven largely by the imperatives of its obligations under the Convention on Biological Diversity and other agreements. These are addressed through preparation of national strategies, most of the relevant ones being discussed in Chapter 4. The Biodiversity Strategy is the most relevant

and the Native Vegetation Framework is the pertinent implementing instrument for vegetation under the Biodiversity Strategy. A new Native Vegetation Framework will set the pattern of work for the states for the next five years and funding of state work programs under the "Caring for our Country" (CFOC) program will likely need to address both the framework as well as the CFOC business plan.

The Ecological Sustainable Development (ESD) process begun in the early 1990s would have formed a broad policy framework within which policy for most natural resource management themes would have been embedded. While ESD principles have been absorbed into general natural resource management policy thinking (for example Clarke, 1998, points out that Tasmania's Resource Management Planning System was developed according to ESD principles) there is no current explicit national ESD policy.

The overriding policy framework for vegetation management in Australia is the National Biodiversity Strategy that binds all Australian governments and fulfils Article 6A of the Convention on Biodiversity Conservation. This requires all parties to have national standards and strategies in place. Australia's first strategy was produced in 1992 and reviewed in 2001, resulting in the finding that significant advances had been made and some objectives remained to be fulfilled. In April 2006 the Natural Resource Management Ministerial Council (NRMMC) agreed to a full review of the strategy and a Review Task Group was appointed that reported to the Natural Resource Policies and Programs Committee. The NRMMC agreed that the review would include a significant consultation process, particularly with indigenous Australia and with industry. An indigenous issues paper was subsequently prepared. Among the findings of the stakeholder research commissioned early in the process was the high level of consistency noted across existing state and national strategies.

At the time of writing, a consultation draft had been cleared by the NRM Ministerial Council and released. The new strategy will address Australia's obligations under the new Convention to Combat Desertification, as well as the international obligations addressing water. It is expected that the new priority areas will include: building ecosystem resilience, knowledge for all, getting results, involving indigenous peoples, and measuring success.

The implementation of the strategy will require wide responsibility and will be intended to guide policy commitments. The second national terrestrial biodiversity assessment, which was released in late 2009, is the audit of whether the outcomes of biodiversity conservation have been achieved. In other words it is the evaluation mechanism.

6.3 Policy Frameworks in General

It may be helpful at this stage to look more closely at just what policy frameworks purport to be. Policy frameworks are ill defined but may generally be assumed as high-level statements of policy direction coupled with the means to effect that direction. The means may be a collection of instruments including legislation, regulations and more specific policies if the policy scope is a wide one. If the scope of the policy framework is narrow then a policy framework may be neatly defined and the instruments precise. Instruments may be pre-existing or otherwise developed in conjunction with a policy framework. One definition of a framework comes out of the Convention on Biological Diversity process, "A framework is a high-level structure which lays down a common purpose and direction for plans and programmes" (Hesselink *et al.* 2007:303).

Overarching policy frameworks have been developed for a wide range of substantive policy areas. For example, an overarching policy framework to deal with climate change was described by Garnaut (2008). After describing the problem, the policy options, and a policy framework, he listed the necessary policy interventions, and finally, described what a low emissions economy would look like. In essence, the background is given, then the options and preferred direction capped with a vision scenario.

In this thesis, I have examined the background to a policy framework and present in this chapter, a framework that benefits from lessons drawn from past history. A policy vision is particularly valuable as a kind of beacon that can be a guide if the policy development process becomes too mired in detail.

Another overarching framework is Tasmania Together, a strategic direction document that measures outcomes across a range of important areas relevant to human living on this island. The document covers all aspects of the Millennium

Development and Millennium Ecosystem Assessment Framework Goals. This document is important and would not be usurped by the vegetation policy framework proposed below. It would be enhanced by it.

Crowley and Coffey (2007) evaluate two high-level strategic documents, Tasmania Together and Growing Victoria Together, particularly addressing the potential of these to promote sustainability. These documents are alternatively referred to as strategic plans, or as frameworks by these authors. They are also recognised as whole-of-government policy frameworks because their scope includes social, economic and environmental matters. These documents rely on, among other things, government machinery to provide the instruments for effecting progress that is then monitored over time.

Crowley and Coffey (2007) ask whether Tasmania Together is a deliberative process, by which is meant a discussion process open to enlightenment, reasoning and education. Deliberative democracy is the opening up of government so if the term is applied here the question must be asked as to whether it is a completely open process. Crowley and Coffey (2007) conclude that Tasmania Together is instead a consultative agenda-setting and benchmarking process that is nevertheless significant in international terms. The process is not deliberative because it is not inclusive of all views but it is a venue for citizen influence over policy. The process collects views and aggregates them. It is not as important as a deliberative process would be if carried out for example in the U.S. where there is not universal compulsory voting. The Bacon Labor government introduced the Tasmania Together process in 1999 after the downsizing of the state House of Representatives.

The Tasmania Together process is an interactive policies tool that takes a top-down strategic direction and marries it with a bottom-up public participation process. It is unique amongst the Australian states (Crowley and Coffey 2007) where other states see it as too politically risky. Those states have state direction or agenda-setting statements that rely exclusively on the top-down approach.

The Tasmania Together Framework is really focused on reporting across a range of themes. In particular, we should be mindful of looking at whether the outcomes

desired by the community in respect of the vegetation policy are capable of being informed or developed by the measures in a new framework. An interesting aspect of the Tasmania Together framework is its blend of sustainable development and conservation measures mixed with social measures, an approach that is compatible with the tenor of international instruments such as the CBD and attendant documents, as well as the Millennium Ecosystem Goals.

6.4 A Policy Stocktake

A checklist is made here of progress in vegetation management against the principal vegetation policy framework instrument, the –National Framework for the Management and Monitoring of Australian Vegetation". The analysis, together with the results of Chapter 4, will assist in determining how much integration there is across Tasmania's policy landscape. It should also indicate what evaluation and lesson-learning capacity is built into the reported initiatives and whether these are set up to be enduring, or will last only for the life of a particular program or project. The policy drivers of the outcomes will be clarified in this chapter.

The state's progress in vegetation management is examined under the headings similar to that of the original stocktake that was prepared by Griffin nrm (1999). To show how the structure of the original stocktake has been simplified for this purpose see Table 16.

Table 16: Comparative structure of stocktakes in vegetation management

Griffin nrm (1999) stocktake headings	Current Stocktake for this study
Legislation, policies and institutions	Roles and responsibilities of governments and community within Tasmania
• Legislation	Legislation, policies, strategies and plans
• Policies, strategies and plans	
• Institutional arrangements	(see Chapter 4 for treatment in this thesis)
• Analysis	
Evaluation of mechanisms	
• Planning and assessment	Assessment and monitoring
• Reserve system	Parks and reserves
• Communication and capacity building	Community engagement, communication and capacity building
	Research and development
• Incentives	Incentives
• Regulatory arrangements	(see Chapter 4 for treatment in this thesis)
• Monitoring and evaluation	(dealt with separately in the discussion at the end of the chapter)
Stocktake	Key lessons
• Key strengths	Strengths
• Key challenges	Challenges

In the Griffin nrm stocktake, the first major headings in Table 16 were prefaced (in the case of each jurisdiction as was the intention in the original national report) by a section on context and a short section on vision. This section is omitted here, given sufficient context has already been provided in previous chapters.

An inventory of actions and developments here enables us the use of an existing evaluation framework. The ―principles" document (Australian and New Zealand Environment and Conservation Council [ANZECC] 2000) is considered to be still relevant, for the purposes of this study. This exercise will lead us into the proposal for a new Tasmanian framework.

When originally conceived, the purpose of the original native vegetation national overview prepared by Griffin nrm (1999) was to assess the progress within each of the Australian jurisdictions. This assessment was against the standards outlined in the Draft National Framework for the Management and Monitoring of Australia's

Native Vegetation (ANZECC 1999). Note that all Australian governments through the Environment and Conservation Ministerial Council subsequently endorsed the draft framework. The Commonwealth then intended to review the framework after a period of five years and a concurrent stocktake was proposed. In 2005 a working group was formed at the behest of the Ministerial Council. These revisions were subsequently abandoned and only recently (2009) re-activated. It was thought by some to be premature to review the framework while a revision of Australia's National Strategy for the Conservation of Australia's Biological Diversity (1999) was imminent.

Rather than report absolutely every vegetation management initiative in the subject period, the coverage in the next section will be indicative of the nature and breadth of the outcomes over this period.

6.5 Progress against the National Framework for the Management and Monitoring of Australia's Vegetation

6.5.1 Roles and Responsibilities of Governments and Community within Tasmania

Roles and responsibilities have been discussed in Chapter 5. Initiatives listed below relate to local government which, certainly up until the NRM process, had been largely disengaged from vegetation management except in minor ways.

In 2008, local government was progressing, through the Resource Planning and Development Commission, a vegetation management instrument that would have to apply to planning schemes. The instrument deals with a range of vegetation values. Local governments have since begun to incorporate vegetation requirements into their planning schemes. For example, the West Tamar Planning Scheme (2006) requires flora assessments if vegetation is to be removed as part of a development application. Major shortcomings exist in these arrangements, especially in relation to threatened species and threatened community management. Threatened native vegetation communities or threatened species are to be retained unless removal is in accordance with a Forest Practices Plan. There is now a wide expectation throughout local government and the community that native vegetation retention

and threatened species values will be considered prior to any impacts but the ability of local government to properly implement community expectations varies widely.

6.5.1.1 Legislation, Policies, Strategies and Plans

A more detailed treatment of policy instruments affecting vegetation and flora is found in Chapter 4; however, the joint national and state Regional Forest Agreement (RFA) signed in 1997 (Tasmanian Regional Forest Agreement 1997) set a 20-year stage for forest management and conservation and has been reviewed in 2002 (Resource Planning and Development Commission 2002) and again in 2007. This is significant for vegetation management because it is a framework applying to forest management and deals with a wide range of issues such as land use allocation, threatened species, reserves, and management practices. The RFA is the nearest the state has come to a comprehensive vegetation management framework. The Regional Forest Agreement provides for conservation of environment and heritage values through the establishment of a CAR reserve system. As at 11 April 2005, 35,100 ha of high priority forest and non-forest communities had been added to the CAR system. By 2008 the Private Land Conservation Program had negotiated covenants covering 44,750 ha (Private Land Conservation Program 2008). Most formal reserves are covered by management plans that recognise and protect CAR values. Further statewide forest management policies are under development. Forestry Tasmania has developed a forest management system (Thackway *et al*. 2005) that has been certified to comply with ISO 14001, the international standard for environmental management systems as well as the Australian Forestry Standard. Private forest harvesters have also achieved international for forestry operation. Threatened species issues are dealt with under Forest Practices Plans and the *Threatened Species Protection Act 1995* mechanisms. Preparation of sustainability indicators for Tasmanian forests were most recently reported on in early 2008 and are reported at 5-yearly intervals. A revised policy for maintaining a permanent forest estate (retention of 95% of the 1996 area of native forest) was released in December 2009 and annual reporting of outcomes is produced (Forest Practices Authority 2008).

The *Forest Practices Act 1985* now covers the clearing of any forest, which is defined as woody vegetation that has the potential to grow to 5m in height or more.

A forest practices plan must be prepared and certified for any clearing in excess of one hectare or 100 tonnes of timber on non-vulnerable land. A forest practices plan is required for any clearing on vulnerable land, except where the clearing is essential for public safety or to maintain infrastructure and does not exceed one hectare or 5 tonnes of timber. Vulnerable land includes riparian areas and threatened species habitat.

Expansion of The Forest Practices Regulations have been expanded to include all threatened forest communities under the definition of vulnerable land and the Forest Practices Code has also been reviewed and revised to incorporate a range of RFA commitments.

Under the Tasmanian Community Forest Agreement (a joint Commonwealth and State Government initiative) significant measures announced in 2005 expanded forest conservation by including the addition of 148,000 ha of forest on public land to reserves, extending protection of old-growth forest to more than 1 million ha. Significant areas of cool temperate rainforest are included. Broad-scale conversion of native forest on public land has ceased, and will be phased out on private land by May 2015 (Tasmanian Government 2009) and statutory mechanisms to prevent the clearing and conversion of rare, vulnerable and endangered non-forest native vegetation communities on public and private land have been introduced.

In giving effect to some of the above agreements, the state will be achieving many of the outcomes sought by the National Framework for the Management and Monitoring of Australia‘s Native Vegetation (2001). Other developments under the heading of legislation, strategies, policies and plans included the signing of a bilateral agreement by the state and Commonwealth to deliver the Natural Heritage Trust (Commonwealth of Australia and the State of Tasmania 2003). This includes agreements for vegetation management. A subsequent agreement under the Australian Government –Caring for Our Country” Program has been negotiated.

Other regulations, strategies and policies include the amendments in 2002 to the *Forest Practices Act 1985* and the Forest Practices Regulations controlling treefen harvesting. A Treefern Management Plan has been very successful in bringing an

appropriate harvesting regime through regulation, control, levies and research and monitoring.

Priority actions from a Threatened Species Strategy for Tasmania (Department of Primary Industries, Parks, Water and Environment 2000) are being implemented, including the completion of recovery plans.

Tasmania's Nature Conservation Strategy (Department of Primary Industries, Parks, Water and Environment 2006) recommends progressive implementation of priority actions and a Wetland Strategy (Department of Primary Industries, Water and Environment 2005) is being used to guide wetland conservation and management. An offsets policy has been developed (Department of Primary Industries and Water 2007) particularly for use in dam assessments recognising that, in some instances, an offset can mitigate the impact of a development. The offsets policy does not have any legal standing and is not promoted as being widely applicable to the full range of potential cases.

It seems evident from the above that developments in policy instruments affecting vegetation and flora management have been curiously running in two separate streams. On the one hand, there is a predominance of developments that have been driven by the requirements of commercial forest management in accordance with the forest management framework called the Regional Forest Agreement. On the other hand, there is an assortment of instruments—mostly lower level ones that deal with a variety of other aspects of the biota. The forest management framework is a central guide for policymaking in the vegetation arena. This central guide requires alignment of other policy instruments and, as discussed in Chapter 4, the inter-agency Vegetation Management Policy Advisory Group is the forum in which the extent to which this happens in particular instances is discussed. Many processes and policy instruments development happens outside the RFA framework however, and there is no apparent forum through which to ensure harmonisation beyond reliance on experienced managers within the bureaucracy.

Table 17: Codes of Practice specifying vegetation measures

Instrument	Date	Description
Distribution Powerline Vegetation Management Code of Practice	2002	Guidelines for vegetation clearing along powerlines, plant disease hygiene measures, accommodating threatened communities
Forest Practices Code	2000	Management framework for all forests in Tasmania
Mineral Exploration Code of Practice	1997	Environmental guidelines for mineral practice, includes Phytophthora hygiene measures
Quarry Code of Practice	1999	Encourages operators to achieve good environmental performance—provisions can be enforced as permit conditions
Reserves Management Code of Practice	2002	Comprehensive guidelines for reserve management

Some instruments are very industry-specific with regard to vegetation and flora management and these are exemplified by the Codes of Practice. Such instruments are usually very prescriptive and are prepared with expert input addressing particular needs.

6.5.2 Assessment and Monitoring

The importance of this activity at the site level is that it provides evidence-based links between what is carried out on the ground and the condition, maintenance and improvement of vegetation. Higher-order policy and management directions still require this finer level of empirical detail. Examples are given below of particular monitoring exercises and their implications for vegetation management and policy at a different level.

The assessment and monitoring of policy itself is scant and will be discussed at the end of this chapter and this section will draw on experience with the work of the NRMMC's Executive Steering Committee for Australian Vegetation Information (ESCAVI). Assessment and monitoring involves collection of basic survey information, setting up monitoring programs and reporting results in an adaptive management framework. Actions may be systematic and statewide or deal with particular issues such as a disease threat. Some monitoring is aimed at improving our knowledge of ecological processes (e.g. Brown *et al*. 2002). Common

experience and empirical knowledge allows the development of guidelines and codes of practice as shown in Table 17. Principal developments in this period have been the preparation of monitoring guidelines and manuals (Barker 2001) and establishment of a new approach to measuring vegetation condition through the development of benchmarks across a broad range of vegetation types using the Victorian ~~"h~~abitat hectare approach" (Michaels 2006). Monitoring and baseline studies have used the Warra Long-Term Ecological Research Site in the Southern Forests (Brown *et al*. 2001). A baseline altitudinal transect has been established on Mt Weld (Doran *et al*. 2003). Elsewhere, impact monitoring of vegetation undertaken in response to a range of issues such as horses and walking (Whinam 2003), impacts of walkers in alpine areas (Whinam and Chilcott 2003), impact of fire on *Sphagnum* peatlands (Whinam and Hope 2005), impacts of feral species (Whinam 2001, Copson 2004) and quarantine risk assessment (Whinam *et al.* 2005), and *Phytophthorn cinnamoni* impact (Rudman *et al*. 2005).

Monitoring, feedback and adaptive management in reserves is assisted by completion of the Reserve Management Code of Practice (Parks and Wildlife Service, Forestry Tasmania and Department of Primary Industries, Parks, Water and Environment 2003) that is being used by the Parks and Wildlife Service and Forestry Tasmania. Other foundation documents and tools include a statewide vegetation map at a scale sufficient for natural resource management planning. Other initiatives at the technical and policy levels include the development of a model for a statewide wild flora harvesting plan, development of a process to rapidly assess vegetation change using satellite and GIS data (outlined in Figure 7), and development of options for the management of the Tasmanian firewood.

Assessments of the status of vegetation values, conservation status, diseases susceptibility and information gaps have encompassed the preparation of a strategic regional plan for the conservation of Tasmanian plant species and communities threatened by *Phytophthora cinnamomi,* the assessment of the values and status of flora and vegetation against WHA nomination criteria (Balmer *et al*. 2004), and a biodiversity information gap analysis for some Aboriginal lands (Harris and Magnus 2004, Sherrif and Magnus 2005). Some assessments, baseline studies and monitoring tools have been developed or progressed in conjunction with other state

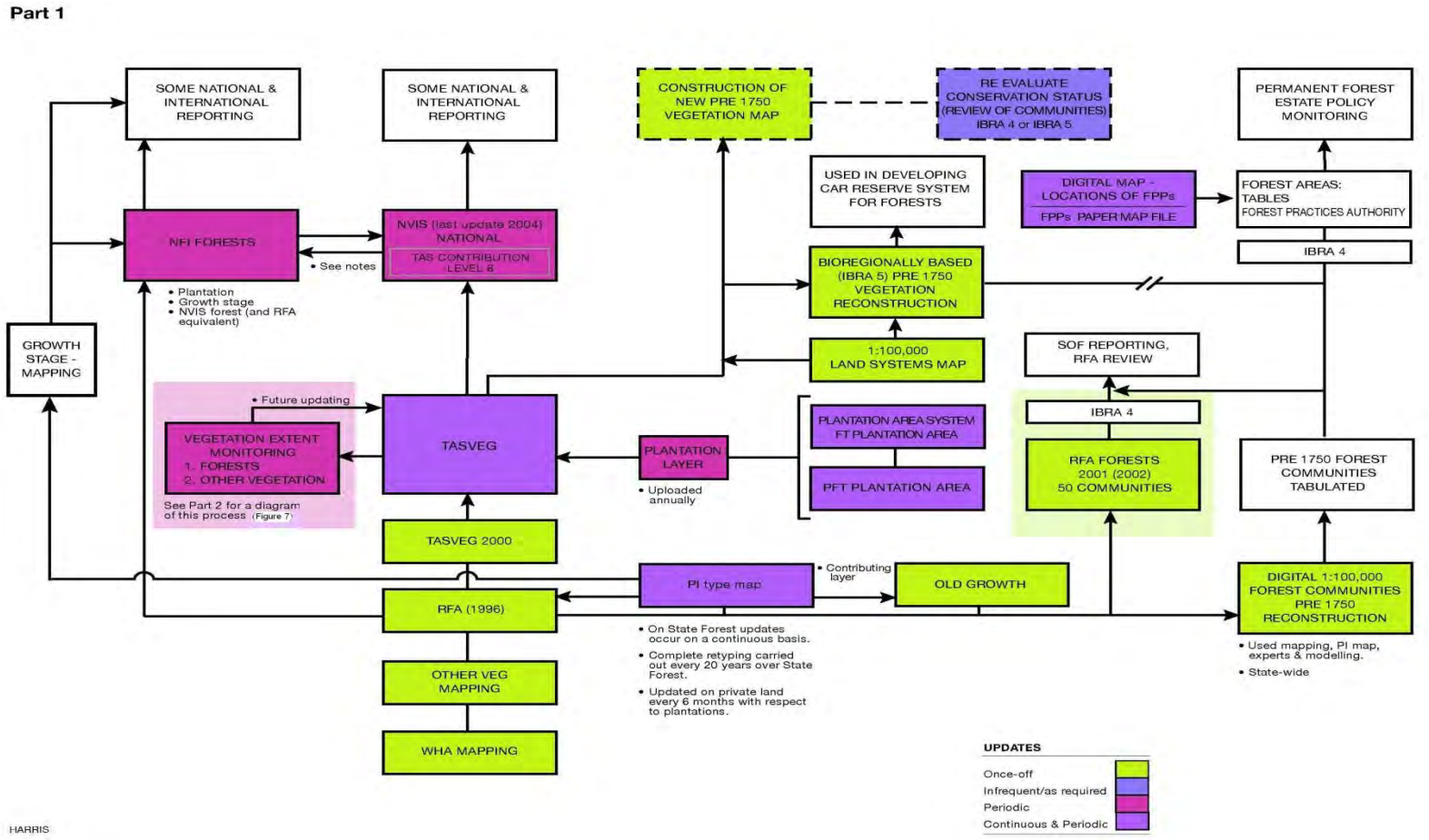
jurisdictions and Commonwealth bodies. For example, vegetation mapping tools and flora databases are being developed so they may assist in contributing to national assessments and monitoring in a way that is consistent with other states as much as possible.

Recognition in Tasmania that the National Forest Inventory (NFI) and the National Vegetation Information System (NVIS) should use common information layers for some reporting has let to agreement about the integration of the NFI and NVIS databases for reporting on vegetation type and extent using appropriate standards, as well as developing minimum specifications for the type of information required in consultant reports on vegetation (Department of Primary Industries, Parks, Water and Environment n.d.). Tasmania has contributed to the development of specifications for vegetation survey standards that will be nationally recognised.

National assessments in which Tasmania has joined include a biodiversity audit in conjunction with the National Land and Water Resources Audit to examine the condition of biodiversity values across all bioregions (Gouldthorpe and Gilfedder 2002a, 2002b, Dunn 2002), bioregional summaries of vegetation, fauna and other information, compilation, in conjunction with the Australian Government, of Ecological Condition Data for some of the Ramsar wetlands, and participation of the Tasmanian Herbarium by contributing records.

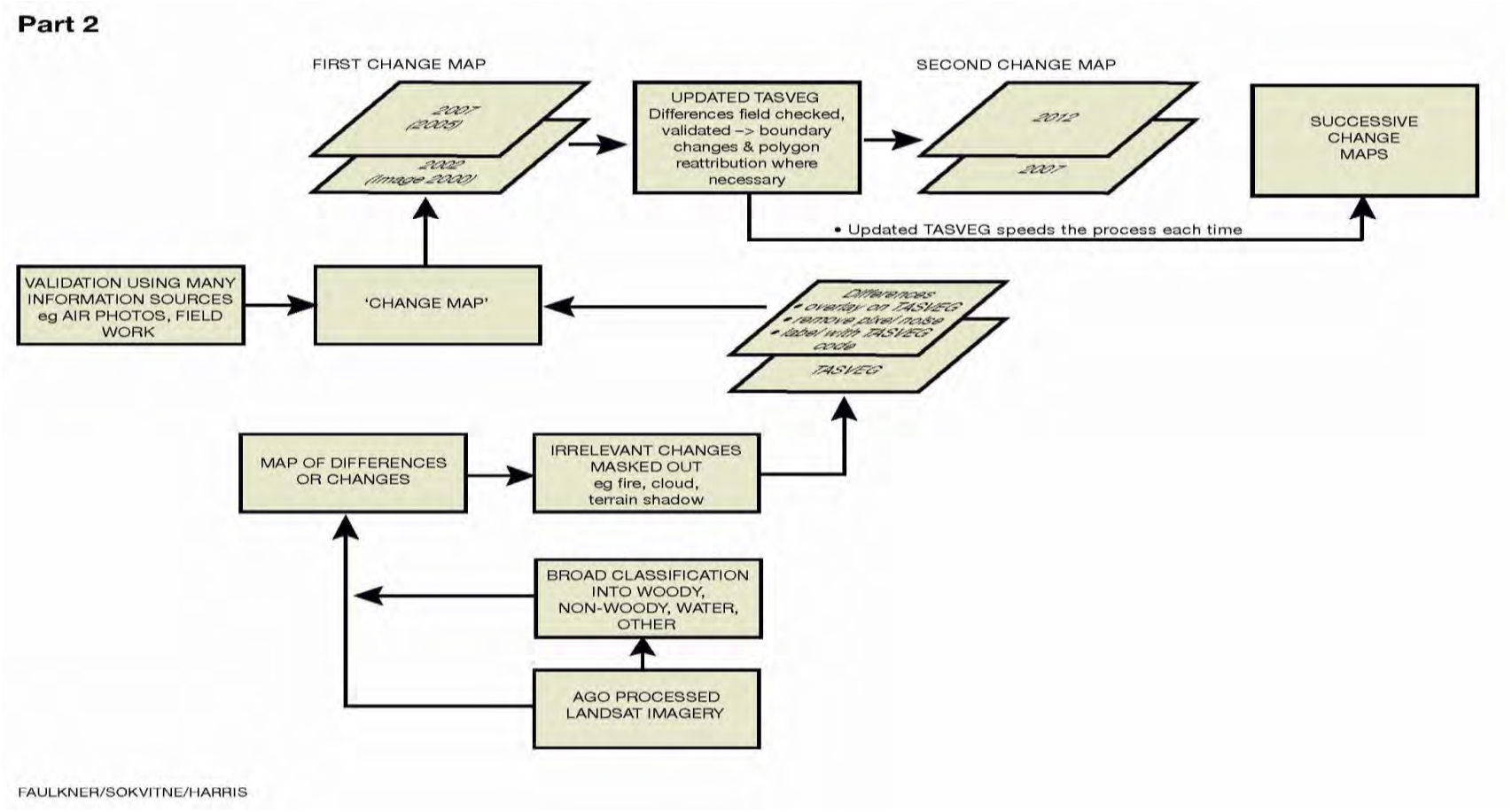
Adjusting policy settings relating to vegetation or any natural resource values will inevitably rely on assessment and monitoring. This supposes that there is sufficient information collected that is maintained, quality assured, updated and widely accepted by stakeholders. For vegetation the sources of information are summarised in diagrammatic form in Figure 6. This is presented only to indicate the complexity of the interrelationships among data layers, the frequency of revision, the transition from outmoded to new layers and the general flow of information. Within a small part of this schema, a method has been developed that enables tracking of vegetation extent changes. Note that this information, which is largely developed at the state level, directly contributes to national and international reporting.

Figure 6: Relationship between major vegetation information layers relevant to vegetation type, extent, pre-1750 extent, plantation and forest growth stage



A flow chart diagram showing process in vegetation extent monitoring is expanded in the next figure.

Figure 7: Detailed flow chart diagram of the process adopted for monitoring vegetation extent



See previous diagram for its relationship to all the major vegetation information layers.

6.5.3 Parks and Reserves

This section will draw on the work of the NRMMC's NRS Taskforce. Reservation of land as a vegetation conservation tool has long been recognised as a primary instrument of vegetation management. A great deal of literature was generated in the 1970s through to the 1990s with regard to the appropriate tenure of such reserves, the relative security of different classifications, their relative placement and configuration in the landscape. The National Reserve System process aims at maximising the benefit of these variables nationwide, although it will be appreciated that the states have put different emphases on their reserve estate and differences abound.

The discussion about the reserve estate in Tasmania has been vigorous and interwoven with land use conflicts, such as the flooding of areas for hydro-electric impoundment versus National Park, or the use of areas for commercial forestry versus National Park. Surprisingly little discussion has been canvassed in the literature about the efficacy of the reserve estate for vegetation management. It was almost as if it was presumed that once in a reserve the vegetation was secure for all time. If the reserve is large enough it can be said that an area is secured for the evolution of the biota it contains and subject to all the vicissitudes of large-scale environmental factors such as changing global climate. Recent evidence of a focus on how such areas are managed is now being discussed. In their studies of Tasmanian heathland, Kirkpatrick (1977) and Kirkpatrick and Harris (1999) illustrate a devastating case of reserves being inadequate to cope with adverse processes. The earlier publication documented the extent of coastal heathlands in Tasmania and recommended particular areas that should be incorporated in the reserve system. In the subsequent study the reserve system was indeed found to have expanded to incorporate the recommended areas but, unfortunately, the destructive plant pathogen *Phytophthora cinnamomi* had also become common in coastal heathlands during the intervening period, and had devastated the floristic diversity of almost all these areas.

As of April 2005, Tasmania has approximately 73% of its pre-European settlement native vegetation remaining (Bureau of Rural Sciences 1999). Including informal reserves and secure public land the proportion of Tasmania reserved is now 44.9 %

(DPIW 2007). The state, through its reserve system (formal and informal reserves both contribute to the CAR reserve system), has made a large contribution to the protection of the nation's natural heritage. Establishment of new formal reserves made under the Regional Forest Agreement and a "Recommended Areas for Protection" process contribute to a Comprehensive, Adequate and Representative reserve system.

The development of a reserve system in Tasmania has been successful in terms of the area it encompasses and the scientific approach to selecting areas for reservation. Revision of vegetation mapping in reserves has enabled improvement in the basis for reservation status assessments of vegetation communities.

Efforts have been made to create good management practice guidelines that protect biodiversity values, including vegetation. There is a lack of monitoring and evaluation within a properly articulated framework across the reserve system. The only comprehensive evaluation of monitoring effectiveness in the reserve system was that prepared for the Tasmanian Wilderness World Heritage Area in 2004 in which evaluation was done anecdotally. This was the Parks and Wildlife Service's first major evidence-based examination of the extent to which management objectives have been achieved under the first management plan (Parks and Wildlife Service 2004).

A number of shortcomings of this report were pointed out by its authors and included recognition that there was a "lack of overall coordination and prioritisation of performance monitoring programs" (Parks and Wildlife Service 2004:225). While a draft environmental management system has been developed to cover all its reserved lands by the Parks and Wildlife Service,[1] evaluation and monitoring has often been piecemeal and often very specific. Rather than rely on coordination and targeting of evaluation from below or from the project upwards, there needs to be a guiding framework that requires evaluation against measurable criteria. The things being measured in a management effectiveness evaluation would need to be tied to key outcomes could be linked to Millennium Ecosystem Assessment goals.

[1] Pers. comm. A. McCuaig, Senior Planning Officer, Parks and Wildlife Service, July 2008. A priority is the improvement of assessment processes for on-ground developments or infrastructure works in reserves.

6.5.4 Community Engagement, Communication and Capacity Building

The social dimension of vegetation management is critical because broad public support will assist in strengthening political will to implement appropriate programs. At a more pointed view, these aspects will help to gain favour with stakeholders such as large rural landowners, where it is now recognised the main gains for vegetation conservation are to be made. With 39% of land in private freehold and 47% of that being in native vegetation (F. Faulkner, pers. comm. 15 July 2009), the scope for conservation on private land is considerable.

Between 1999 and 2008 advances made under community engagement, communication and capacity building included publication of information on incentive programs;[2] continuance of the Wildcare program (a formal network of volunteers who carry out many types of work); establishment of the Tasmanian Land Conservancy (TLC) (an NGO that complements the national approach of the Bush Heritage Fund) that uses revolving funds so that properties can be purchased, covenanted and sold on; and contribution to goals set by the Global Strategy for Plant Conservation with respect to *ex situ* flora conservation in Tasmania through a joint project with the Royal Botanic Gardens Kew (Millennium Seed Bank). The state is thus well placed to meet Target 8 of the Global Strategy for Plant Conservation (2002) with 60% of threatened plant species being represented in accessible *ex situ* collections (see Harris *et al*. 2009, Appendix 3).

Development of visitor centres for interpretation and education, at strategic areas around the state, establishment of a Cooperative Research Centre for Forestry with an active research program, establishment of a Weed Alert network And the preparation of vegetation management guidelines in a web-based Bushcare Manual and wide dissemination of listed threatened species information (Lazarus *et al.* 2003) completed the range of achievements under this heading.

6.5.5 Research and Development

Research is critical at different levels. Properly designed studies that are refereed and published add to the evidence chain in vegetation and flora management.

[2] www.dpiwe.tas.gov.au Natural Environment/Information for Private Landholders.

Examples are listed below. Research outputs are published in the annual reports of the research institutions and relevant government agencies.

Research on the ecology of Tasmanian vegetation, species germination, and threatened species is being carried out across a number of agencies and in at least two departments at the University of Tasmania. Permits are granted to researchers from interstate and overseas to carry out fieldwork on the flora and publish scientific papers. These studies encompass many aspects of species biology, taxonomy and ecology. There is no continuing systematic botanical survey program. Thorough regional or district botanical surveys have become rare and there is no coordinating program for them. An annual program does exist for surveys of offshore islands through the Hamish Saunders Memorial Island Survey Program. Occasionally, priorities emerge depending on other processes and requirements.

Some of the research groups are highly productive and yield results on the physical extent, status, properties and responses of native vegetation and flora, all essential to drive informed management and policy. For example, understanding the aetiology of rural tree dieback that has been extensive in the Tasmanian Midlands in the last three decades is required before an appropriate management response is made. Rural tree decline is a problem that has received some research attention and options for reversing or ameliorating the adverse consequences have resulted (Close and Davidson 2003, Close and Davidson 2004, Kirkpatrick *et al*. 2000).

During the first stage of the Natural Heritage Trust there was considerable funding allocated to farmers to sheath the boles of paddock trees in shiny sheets of metal to prevent the destruction of the tree canopy by marsupial possum browsing. This was then thought to be the key problem causing the appearance of dieback and, if the possums could be prevented from accessing the trees, then they would recover and flourish. Some of the subsequent ecological and physiological research disproved this theory and the real causes could then be considered.

While scientific research has continued, there have been limited well-designed studies of the policy and management response of different on-ground actions. A start has been made, but too often these evaluations appear not to critically analyse

success and failure in a lesson-learning framework. The result is that limited advances are made at the policy levels as a result of such studies.

6.6 Incentives

Incentives rely heavily on the social aspects of vegetation management and will prove more or less fruitful according to how well some aspects of the social actions have been implemented. Options for reservation on public land are all but exhausted and in pursuing the _œomprehensive, adequate and representative‘ aims of the components of the National Reserve System, it is increasingly a requirement that poorly represented elements of the biota be sought on land systems that have been heavily modified. These include those remnants on fertile land. The actions listed below stem from the previously mentioned need for vegetation conservation on private land.

In 2009 there were 35 Land for Wildlife volunteers used throughout the state as assessors of rural vegetation on private land. The program at the end of the 2006–2007 financial year had 620 properties signed up, covering a combined area of 46,500 ha. A framework for property-based vegetation planning and vegetation management agreements that can be used for conservation planning and management of all native vegetation types (forest and/or non-forest) has been established.

Stewardship payments are presently made to landowners for management of priority forest types. In 2005 there were 192 properties secured under the Forest Conservation Fund Program through purchase, covenants or management agreements and these occupy a combined area of 31,565 ha (Department of Primary Industries, Parks, Water and Environment 2005). A further 2,869 ha was at that time in the process of being secured. Similar mechanisms are used or being investigated by other programs such as the Protected Areas on Private Land Program and the Non-forest Vegetation Conservation Program. The Protected Areas on Private Land Program has secured the protection of several thousand hectares of vegetation through covenants.

While vegetation conservation has received much focus, some steps have been made towards sustainable economic uses. For example, a policy framework for

biodiscovery is currently in preparation. Projects (pharmacological screening of plants) have been carried out so far under locally developed commercial and conservation criteria. The recently developed Access and Benefit Sharing Agreement as used for the various Australian partnerships with Royal Botanic Gardens Kew has recently been adapted for a Tasmanian project. Other ways that economic incentives are being pursued is through various commodity groups seeking eco-labelling and commodity certification. For example, there is an Australian Land Water and Wool project in Tasmania investigating eco-labelling criteria.

A strong dichotomy exists between commercial uses of vegetation on the one hand and protection for conservation on the other. Convergence of these major approaches in mutually beneficial ways would be a significant achievement.

6.7 Summary of Advances in Vegetation Management 1999–2008

In 2007, the proportion of Tasmania in reserves was 44.9%. This increased from 41% of Tasmania in some form of reserved land as at April 2005 (Lennon 2005) and over a third of the land area is protected in formal reserves. This increased as a result of determined efforts to target forms of vegetation management on private land. Formal and informal reserves both contribute to a Comprehensive, Adequate and Representative reserve system in Tasmania. Various programs are underway to encourage the conservation and restoration of native vegetation on private property, improve vegetation management on public land, increase our knowledge of vegetation and flora and develop tools for monitoring and management.

The principles of the National Framework for Vegetation Management and Monitoring (ANZECC 1999) have been a useful and succinct guide for vegetation managers at the state government level at least. The actions in the National Framework Work Plan for Tasmania (1999) (URS Corporation and Griffin nrm 2000) have been largely achieved, except for those activities that are recognised as ongoing. Of the nine implementable discreet actions, all have been achieved or exceeded. Of the 25 ongoing actions, there has been engagement in, and progress on, all of them. Some components of ongoing actions have been completed. Two

components of ongoing actions have not been undertaken because other processes have overtaken them.

Knowledge about Tasmania‘s vegetation and flora has increased substantially over the period, allowing for targeted and effective programs and initiatives. For example, Tasmania‘s vegetation mapping (Tasmanian Vegetation Mapping Program 2005) is under active revision. Other vegetation information databases are currently being reviewed with the aim of consolidating support for databases used for statewide reporting (e.g. State of Environment reports).

6.8 Key Lessons

6.8.1 Strengths

The key strengths in Tasmania‘s vegetation policies are demonstrated in a number of ways. Perhaps principally there is a high degree of inter-agency cooperation at the officer level in vegetation programs. There is also a genuine intent to form a whole-of-government approach and guidance from a coherent Resource Management Planning System. High-level agreed goals (Tasmania Together 2001) and other strategies such as the Regional Forest Agreement have enabled the state to make substantial but sporadic advances in vegetation management and conservation. This is manifested in the development of a world class reserve system, protecting comprehensive, adequate and representative examples of vegetation habitat, and a world class Environmental Management System for the management of production forests (Thackway *et al*. 2005). High calibre researchers based in various organisations including CSIRO, Government Departments, University Departments and Forestry Tasmania produce peer reviewed research of high international standard.

6.8.2 Challenges

The key challenges include ensuring consistency between actions and goals across NRM regions, local, State and National governments. This need for consistency also cuts laterally where currently there is spread of vegetation management responsibilities a number of agencies. Coordination across agencies and sectors needs to be strengthened. Thanks to the large amount of activity across private and government sectors in the vegetation management area, there is confusion about

what initiatives there are, and what level of policy is relevant to particular issues. There clearly needs to be an overarching framework such as a Vegetation Management Act with the major natural resource management agency taking responsibility assisted by a coordinating council. Ideas for such an Act are developed further in Appendix 5. The accessibility, veracity, reliability and currency of government Geographic Information Systems and spatial databases that are used as a basis for decision-making requires continuing review and improvement. Decision-making and policy requires best information and the recognition of single accredited authoritative datasets. Policy development concerning landscape fire is under-developed. Catchment and bioregional vegetation management—particularly in relation to the emerging issue of carbon sequestration, patterning, fragmentation and vegetation health and condition through more ecological and process-oriented research at a landscape scale—is also clearly required.

6.9 Evidence of Policy Learning?

The outstanding achievement evident in the analysis is the comprehensive, targeted and coordinated construction of a comprehensive, adequate and representative reserve system. There are tools for assessing suitability of candidate additions to the reserve system. Private, government and business energy is harnessed in the effort to contribute. There are legal and policy measures in place, including the National Reserve System standards and criteria, a reserves area accounting database and the Parks and Reserves Act at the state level, which provides legislative protection for the core of the reserve systems. Measures associated with protection of land and habitat for flora species and vegetation are also well developed and supported. Other aspects of vegetation policy, however, are not as well developed, supported or integrated.

Monitoring and evaluation are key tools of policy learning and can be applied to policies themselves as well as to programs. Evaluation has been evident across a range of program and projects. For example, a review of the scientific, governance and administrative aspects of the Tasmanian Vegetation Mapping and Monitoring Program was carried out (2008), which resulted in a list of recommendations subsequently addressed by the Department of Primary Industries and Water. A

review of the biodiversity program in the Forest Practices Authority (2008) has led to modifications to the delivery of that program. Higher-level reviews have also been carried out—one of which is a review of all aspects of the Threatened Species Program by the Tasmanian Audit Office (2009) culminating in its report with 19 recommendations covering technical, administrative, scientific and policy aspects of the program. The Private Forest Reserve Program was reviewed in 2007 ultimately leading to the amalgamation of three different off-reserve vegetation programs into the Private Land Conservation Program. The Permanent Forest Estate Policy was reviewed and an updated version released in 2007 with an increased threshold for native forest communities and new thresholds particularly applicable to islands. Although public submissions were received during the review of this policy, much weight was put on the learning gained by the Forest Practices Authority from its administration of the first version of the policy.

A look at some of the evaluations and reviews in the period 1999 to 2009 (see Table 17) reveals no lack of willingness at all levels above local government to examine the efficacy of programs, strategies, tools and systems. In examining "who learns" however it seems there are dispersed policy actors across government agencies who might play this role.

Table 18: Examples of some relevant reviews and evaluations of programs, strategies, tools and systems from Tasmania and the Commonwealth 1998–2009

Name of review	Date	Organisation	Review target	Comment on extent of cross-cutting, and breadth of implications	Who learns?
Environmental Performance Reviews Australia	1998	OECD	Effectiveness of programs and strategies	Much is directly applicable at the national level but many issues should have appeared on the COAG agenda	Australian Government
State of the Tasmanian Wilderness World Heritage Area. An Evaluation of Management Effectiveness	2004	Parks and Wildlife Service	Management evaluation	Recommendations targeted at PWS for the WHA but would be applicable in some instances to other reserves; method is well documented and applicable across the reserve system	Parks and Wildlife Service

Table 18 cont'd

Name of review	Date	Organisation	Review target	Comment on extent of cross-cutting, and breadth of implications	Who learns?
Australia – State of the Environment 2006	2006	Australian State of the Environment Committee	The outcomes	Urges the need for an enduring environmental reporting system	Australian Government
Review and Evaluation of the Tasmanian Private Forest Reserves Program	2007	Gilligan, (private consultant)	The degree to which the program has achieved its targets, cost effectiveness, use of most appropriate processes and methods, and community impact	Confined to program matters within the department but emphasises importance of scientific advisory group and need to engage with COAG process for specific issues	DPIPWE Program, policy and senior managers
A Review of the Focal Species Approach in Australia	2007	Land and Water Australia	Conservation tool	General scientific assessment broadly available	Vegetation management practitioners
Review of the Administration of the National Reserve System	2008	Australian National Audit Office	Progress against the directions for the program	Some lessons here for state agencies in performance management	Australian Government
Regional Delivery Model for the Natural Heritage Trust and the National Action Plan for Salinity and Water Quality	2007-2008	Australian National Audit Office	Program design and consequent outcomes	Relevant to State Governments and regional bodies as much as Australian Government	Australian Government
Review of the Tasmanian Vegetation Monitoring and Mapping Program	2008	Independent consultant	Operations, methods and governance – conservation tool	Detailed recommendations on every aspect of the program – affects wide variety of stakeholders	DPIPWE
Review of Tasmanian Planning System	2009	Review steering committee chaired by the Minister	Operability and effectiveness of the planning system	Detailed recommendations affecting land use decision-making	Tasmanian Premier (Government)

Table 18 cont'd

Name of review	Date	Organisation	Review target	Comment on extent of cross-cutting, and breadth of implications	Who learns?
Review of the biodiversity provisions of the Tasmanian Forest Practices Code	2009	Biodiversity review panel for the Forest Practices Authority	Conservation tools and systems	Examined within an industry framework but recommendations not confined to FPA, and depend on wider context for effective implementation	Forest Practices Authority
Management of Threatened Species	2009	Auditor-General Special Report No. 78	Lead agency's (DPIPWE) role in implementing and managing threatened species strategies	Assessment of public authority management agreements and engagement with other agencies and government business enterprises	DPIPWE senior managers and policy staff

Policy confinement is apparent. The lessons may be confined effectively to silos precluding attempts at cross-cutting policy and program reform and the lack of clearly identifiable learning actors indicates an omnipresent danger of lessons being short-lived, fragmentary or dispersed.

Many of the initiatives being reviewed are fragments which, when listed together, further contribute to the impression of an incomplete policy landscape. The gap analysis in policies described later in this chapter will show insufficient instruments or policy guidance for biodiscovery and exploration of the flora for various other useful products, for example. Additionally, the role for research focused on understanding of vegetation management needs across the public lands estate must be strengthened. A direction for fire management and its role in biodiversity conservation and vegetation management requires urgent policy attention. This should be considered in relation to carbon sequestration.

As mentioned previously, one of the major tools for vegetation conservation is the maintenance of an extensive reserve system. Vegetation conservation can be distinguished from vegetation management. Vegetation conservation can be partly effected by reservation. Reservation is most effective when there is management

that is informed by planning, application of evidence-based management actions, ecological research and monitoring and evaluation of management options. The effectiveness is the –vegetation management test". Forestry Tasmania, which has direct land management responsibility for 1.5 million hectares (22% of the state), manages some of the reserve system, 514,000 ha of which comprise formal and informal reserves (Forestry Tasmania 2008). The Parks and Wildlife Service is a land management agency responsible for a large component of the 47% of native forests in the reserve system (Tasmanian and Australian Governments 2007). Both organisations differ in their capacity and enabling policies for management.

6.10 Policy Gap Analysis

A gap analysis presupposes that one has knowledge of the complete content of the analytic target. There are logical ways of constructing such a content field, an example in scientific research being demonstrated by Grove (2004). He based his content field on the conceptual structure of how a forest ecosystem works by breaking it down into elements and then attributing existing knowledge to each of the elements. Constructing a content field for a completely comprehensive substantive policy area such as vegetation management is initially at least more vexed.

The following nine-point outcomes model is proposed as a guide for the gap analysis. This outcomes model is constructed by using the relevant Articles between 6 and 19 (the –doing" Articles) of the Convention on Biological Diversity, the relevant Articles being shown in parentheses below. Selection of these outcomes to represent a broad vegetation content field is also supported by research for this thesis and the author's personal experience in the vegetation management field over 25 years. It is used to guide the gap analysis and will inform a proposed vegetation management framework as outlined in the following chapter.

6.11 Application of a Gap Analysis Checklist and the Results.

1. *Appropriate policy and legislative instruments in place or readily available*. (Article 8—developing appropriate policy, strategic and legislative measures for conservation and sustainable use)

- Explicit adoption of a planning horizon of say, 100 years reviewed on a 10-year rolling period (consistent with the span of the National Biodiversity Strategy). The concept of risk planning for a decades-long time horizon has now been adopted in prioritising work on threatened species. Active scenario planning could be regularly carried out and integrated with other themes such as climate, trade factors, demography.
- Uniformly strong vegetation management policy at the local government level delivered through the planning schemes and appropriate schedules to planning manuals but with a head of power in a Native Vegetation Act.
- More engagement between local government planners and bushland managers and state government policy officers to develop strategic statewide approaches at the local and regional level. The engagement between these two levels of government may be mediated through the NRM regions, but the proposed statutory advisory groups will need to address vertical integration and cross-cutting measures.
- Consolidation of strategies such as the Nature Conservation Strategy, the Wetland Strategy and the Threatened Species Strategy would lead to more coordinated actions and less confusion amongst clients and users of the strategies.

2. *Best possible effective and workable barriers to introduction of pest plants and diseases, the escape of which would have adverse effects on the vegetation*. (Article 8—developing in situ conservation measures)

- There is a system to act on any problems that became evident through the Biosecurity Technical Committee. BIOSIRT is a quarantine management system and database that assists in the response management to quarantine issues.

  Despite the systems in place there is always the risk of new incursions, aided by the ease and frequency of air travel and the large number of vehicular ferry passengers and their vehicles. Weed Alert is an early warning mechanism that has now lapsed due to lack of resources. The incursion of animals has been discussed in relation to the fox.

  There is also a policy gap potentially endangering biosecurity in the lack of control over the movement and trade in cut flowers and foliage across state

boundaries. Monitoring protocols need to be designed to detect and alert authorities to early incursions. Weed Alert was almost a voluntary arrangement and relied on chance observations of newly introduced plants. It did operate successfully in respect of known particular plants. A formal monitoring protocol is needed that is integrated into broader monitoring programs and designed to detect so-called environmental weeds as well as agricultural weeds.

3. *Comprehensive, adequate and representative examples of vegetation communities in reserves and the reserve system configured to best protect the biota against adverse effects.* (Article 8—developing in situ conservation measures)

- There is a basic lack of research on minimum viable patch sizes for different vegetation types and lack of a solid empirical basis for 30% minimum vegetation on offshore islands as it is applied under the Permanent Native Forest Estate Policy.
- The responsibility for reserves crosses Forestry Tasmania, the National Parks and Wildlife Service, Tasmanian Land Conservancy, Bush Heritage Fund, Local Government and private landowners. There is no coordinating mechanism across these in the form of a reserve ~~–in~~dustry group", although some basic indicators in this area are tracked by the Conservation Policy and Planning Branch in the Department of Primary Industries, Parks, Water and Environment. The branch is responsible for reserve establishment especially now dealing with private landowners to achieve the reserve targets set out in the Community Forest Agreement and in the National Reserve Strategy. The NRS working group is a national body that represents the lead agency in each jurisdiction that is responsible for the reserve system. National standards are set for comprehensiveness, adequacy and representativeness principles.
- The administration and process arrangements for dealing with the identification, assessment, listing, review, compliance and advisory aspects of threatened communities is insufficiently developed.
- There is no monitoring and evaluation of change in vegetation condition. While methods of assessing condition at the site and the landscape levels are being developed through the Executive Steering Committee on Australian

Vegetation Information (a National Coordinating Committee reporting to the Natural Resource Policies and Programs Committee) there is no general agreement within state government for particular condition assessment policies. Most of the developing issues with reserves will relate to condition rather than extent.

4. *Possess the technical means to back-up conservation of wild plants and understand their properties and sustainable exploitation.* (Articles 7 and 12, Article 9 about having ex situ conservation measures; Article 11—using incentive measures for conservation)

5. *Develop a comprehensive inventory of tools available for vegetation and flora management including ex situ conservation of plants, understanding that resilience of flora to change is a prime subject for monitoring and evaluation*. (Article 9—having ex situ conservation measures; Article 11—using incentive measures for conservation)
   - On private land there may be very high flora and vegetation values but there is no extension service to guide landholders on management or on using these values in market-based income or benefit streams. If websites are expected to be the source of this information, they need to be much more easily found and navigated than they are at present.
   - Environmental certification schemes are required for produce from farms—perhaps guided by nationally consistent guidelines, then different sectoral interests can produce their own, displaying the imprimatur of the nationally consistent guidelines

6. *Managing vegetation and flora values in the context of ecologically sustainable economic development*. (Article 19—full participation in biotechnological research; Article 14—impact assessment and minimising adverse impacts)
   - A statewide biodiscovery and access to genetic resources policy needs to be completed and tied to a Head of Power.
   - A comprehensive review of non-wood economic flora values needs to be conducted with the aim of assessing policy needs for sustainable development.

7. *Researching, understanding and managing for the natural system processes.* (Article 7—identifying and monitoring biodiversity components and enhancing ecological understanding; Article 12—concerning research and training)

- A tenure-blind statewide spatial fire plan should be developed in view of long-term desired outcomes for the nature of vegetation patterns in the state, considered alongside safety of people and property.

8. *Native vegetation sustainably providing functioning ecosystems, aesthetic and scientific value and economic goods including biocompounds, ecosysytem services, food materials, wood and other compounds, materials and products with no immediate to long-term adverse effects on the persistence of the biota.* (Article 19—full participation in biotechnological research; Article 14—impact assessment and minimising adverse impacts)

- Some significant and potentially emerging gaps occur here such as the exploitation of genetic and biochemical resources are poorly serviced by policy guidelines or frameworks.
- Provision of ecosystem services are assumed in existing instruments but specific requirements such as management of vegetation in the headwaters of a catchment for example is not explicitly addressed.
- Products such as native foods and floriculture are not addressed at present. Examples can be given of both industries and the regulatory milieu under which they survive at present. The fruit from *Tasmannia lanceolata* (native pepper) is harvested from the wild The fruit comes from mostly private freehold land, in some cases from extensive old field colonisation of pasture on basalt on land owned by timber companies intending to establish timber plantations. The native pepper harvesting is carried out under agreements between the entrepreneur and the landowner. The entrepreneur sells the product locally and interstate and is incorporated as an ingredient into numerous food products. The long-term value per hectare of the native pepper production may well exceed that to be derived from the timber plantation. There is no royalty paid to the government because there is no licence or recording or management, nor is there any policy and marketing intervention conducted by the state. The value to the state is unknown and

would be discoverable only through taxation records. There is no policy framework to protect or sustainably grow the industry.

- Floriculture trade in Australia has a large and developing demand for product. There has been one operator in Tasmania who has sought to carry out his wild harvesting from Crown land and from State Forest by seeking a licence. To export his material he required a management plan that had to be certified by the Commonwealth under *the Environment Protection and Biodiversity Conservation Act 1999*. The then Department of Primary Industries and Water developed a brief management plan on his behalf as an exploratory exercise. Normally this could be an activity that would be done by a consultant at the cost of the entrepreneur. There is no clear policy framework for this trade and the true value is not known because the lack of regulatory control or surveillance means that no data is collected. There are several problems with the existing approach and another is the lack of coordination across government such that an entrepreneur can play one land-holder off against another. No royalties can easily flow to the state because no system has been codified. And there is no checking, tallying, tagging or reporting system to enable proper calculations.

9. *Knowledge about the composition of vegetation, how it might be changing, and its resilience in the face of changes. Anticipating and managing for environmental and socio-economic change.* (Article 7—identifying and monitoring components of biological diversity; Article 8—develop in situ conservation measures through reservation, regulating and managing biological resources, promoting sustainable development and rehabilitation, regulated risks from GMOs; Article 9—complementing in situ conservation with ex situ measures)

- This is bound up with information across the vegetation landscape and an understanding of its resilience. Such knowledge is reliant on piecemeal programs and there is no overarching policy framework providing guidance and a lead. Given the broad nature of the threats to native vegetation, all available tools are required to understand the resilience of vegetation. These will include the study of landscapes using multiple GIS layers and incorporating modelling.

It can be seen that Tasmanian experience matches well the scope of the Convention Articles. This is therefore the framework of our policy field that should be read in conjunction with the broad principles of UNCED's Agenda 21, the first of which reads "Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life in harmony with nature" (UN 1992).

The Millennium Ecosystem Framework is also useful as a broad context that encompasses natural values management in an ecological sustainability and human-centred perspective.

6.12 Towards an Integrated Tasmanian Framework

The existing vegetation management policy frameworks may work but there is huge scope for improvement and for moving the state to a comprehensive framework that has the flexibility and breadth to encompass current and emerging issues. As we have seen throughout this thesis, and especially in Chapter 4, the vegetation policy landscape is poorly articulated in Tasmania, with different and overlapping responsibilities spread across a range of institutions. Articulation is mainly through a broad framework of the Regional Forest Agreement but a number of important areas of emergent vegetation policy fall outside this. The Regional Forest Agreement and subsequent Community Forest Agreement are comprehensive in what they set out to achieve, but their core role is serving the requirements for sustainability of wood harvest. Different Acts and a platform of poorly integrated instruments do not assist joined-up policy in this domain. Chapter 4 showed that there were gaps in the vegetation policy implementing machinery. The policy consequences of these were discussed in Chapter 6 where a gap analysis in the policy landscape was done.

As discussed in previous chapters, vegetation policy suffers in a number of ways by the nature of its evolution. There are elements that are disjointed, confusing, complex, and that are sometimes at cross-purposes. There has been limited evaluation, even studies carried out by policy professionals have proceeded on the basis of assumptions that need further examination. The nation-wide state-by-state evaluation (Dore *et al*. 1999) of vegetation management frameworks simply

produced a shopping list of actions that could be referenced to a logically developed national framework.

The national Native Vegetation Framework currently being reviewed by all Australian governments will be an agreed document endorsed through the COAG process by the NRM Policies and Programs Committee and the NRM Ministerial Council. It will be general and there will be reporting obligations on the state, but it is argued here that this is too narrow in its scope if we expect it to also play a dual role as a state vegetation policy framework.

Given the likelihood of increasing national agenda-setting, our framework would need to recognise our national obligations and reference our policy development to national drivers. It would therefore, as best as possible, nest neatly under legislation and policy that was higher in the hierarchy. Action 1 in the draft Native Vegetation Framework (Draft 12 October 2009) has as a priority to "develop national guidelines for native vegetation legislation to provide a basis for consistency, where possible, in definition and scope of coverage" (draft Native Vegetation Framework Draft 12 October 2009). It is proposed that the Australian Government and state and territory governments jointly develop this action. If the framework is eventually endorsed and adopted, with wording at least similar to or the same as in the current draft, then this will provide the policy driver for a renewed look at legislation around the country.

An examination of the vegetation policy areas of the other jurisdictions makes it apparent that there is no neat and comprehensive package that could be transferred to Tasmania that would cover all the matters for concern in a vegetation policy framework. This is due to several factors. Other states' policy landscapes are, similar to that in Tasmania, constructed in a patchwork of ways and just as responsive to multiple and different agenda-setting forces. For example, the large list of framework, policy and legislative elements that characterise the NSW situation is very large with at least 29 policies and 19 pieces of legislation that are relevant to this theme. The definition of a comprehensive vegetation policy may be defined in different ways from state to state. Hence, Queensland's *Vegetation Management Act 1999* is really mainly about controls over vegetation clearing and dates from the time when this was a dominant issue. Therefore, policy transfer may

be applicable or desirable for specific elements, but would not be appropriate for a complete framework from another state.

While all states and territories have high-level policy frameworks that include vegetation (in Appendix 2: Native Vegetation Framework Review Task Group, 2009), their currency is not synchronised nor is there close commonality in terms of issues and approaches. This is partly due to the different environments around the country. For example, the policy framework (Parks and Conservation Masterplan) being currently prepared in the Northern Territory will recognise that there is further scope for broad-scale vegetation clearing in the Northern Territory for various development purposes. Historical differences in the evolution of land use between the Northern Territory and the other states are invoked as a reason for this stance (pers. comm. Mr P. Brocklehurst, Northern Territory Government, 25 February 2010). For this reason, the wording in Australia's Native Vegetation Framework Consultation Draft allows for vegetation clearing in the Northern Territory whereas the practice is being successfully wound back in other states. The Northern Territory on the other hand, has a biodiscovery Act that provides a widely admired framework for biodiscovery, which other states have closely observed while considering adapting many of the elements to their own jurisdictions.

Many examples can be found where different states have model policy elements but no state or territory has a complete package of such elements. A survey of forest practices biodiversity provisions alone, in all the states, demonstrated this principle well (Biodiversity Review Panel 2008).

6.13 A Vegetation Management Act as a Comprehensive Policy Framework

A native Vegetation Management Act (VMA) for Tasmania could help to integrate the disparate elements scattered through the current Acts and policy documents. The issues identified in the gap analysis contribute to new elements that can also be encompassed. A suggested template covering the scope of a VMA is found in Appendix 5. All high-level policies should be gathered as background material to determine if any require a statutory head of power. Such a Tasmanian review would ideally consider not only what gaps there are and what needs inclusion, but also what is redundant, should be excluded, or be treated in another way, for example by

a different instrument or covered in other statutes that are not part of this review. The VMA would facilitate the management, conservation and sustainable use of vegetation and its constituent species and products. —Ownership" status of wild products should be made explicit. Given the desirability of ensuring that the nation's vegetation efforts are better coordinated, an integrated hierarchy of legislation should be developed. If we look at the *Environment Protection and Biodiversity Conservation Act 1999* it is an apparently awkward conglomeration of statutes that include protection of whales, land management of parks and reserves, export of uranium and processes for listing threatened species.

Some areas need to be considered in a VMA—this is especially the case in vegetation issues, which have seen great changes. Wild-harvested material and its control and regulation should be dealt with in an Act by setting an overarching statutory framework. Presently, a draft policy discussion paper has been prepared to guide management of access to genetic resources in Tasmania. There are also guidelines that have been adopted by all Australian states and the Commonwealth, under which collection of plants and plant parts for trade are managed. Where there are nationally agreed consistent approaches, the principles should be accommodated in wording in a VMA. For example, the nationally consistent approach for access to and the utilisation of Australia's native genetic and biochemical resources.

A primary reason for focusing on a more comprehensive VMA is that it can benefit lesson learning and thus improve policy quality and effectiveness in the future. Dovers (2003a) lamented the fitful –stop-start" nature of environmental programs and monitoring, evaluation and reporting initiatives. Clearly there needs to be a requirement for monitoring, evaluation and reporting incorporated in legislation. A VMA should specify an obligation to, for example, –keep under review and report on the condition of Tasmania's vegetation, using assessment methods, data handling, analytical techniques and reporting formats judged to provide long-term consistent data". This addresses Dovers's (2003a) other conviction that information is fundamental to policy and to the policy-learning approach.

The Acts are the top tier of a system of instruments that descends through regulations, intergovernmental agreements, state policies, departmental policies, memoranda of understanding and other instruments. There will be differences of

opinion about where specialist Acts should remain separate. For example, some would argue that there should be a separate Act for threatened species because it helps to keep a high profile with the public. The wording of a VMA is not in the scope of this study. There are forms and conventions used by parliamentary draughtsmen that are also not dealt with here. The only question of structure is whether a state VMA would mirror that of the Commonwealth. This is not advisable at present. The *Environment Protection and Biodiversity Conservation Act 1999* while arranged to address all the concerns of a national government agency in response to international agreement obligations also deals with other federal responsibilities such as regulation of uranium mining, imports of flora and fauna products, quarantine, biosecurity as well as concerns about managing Commonwealth-owned land. The overall result is a disjointed Act, the effects of which have been reviewed elsewhere (for example Dawson 2004). The *Environment Protection and Biodiversity Conservation Act 1999* was under review by the Commonwealth at the time of writing.

The biggest advantage in amalgamating all legislative policy elements for vegetation acts into one VMA is in the encouragement it provides for a more streamlined and joined-up approach. The government would be able to make a positive case for the consolidation of vegetation statutes. This is the same approach as the Australian Government‘s with the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC), for the broader topic of biodiversity. It would also be less wieldy to manage. The Productivity Commission (2004) expressed concern that vegetation conservation on private land was poorly served by inflexible application of conservation targets, poor regulatory regimes without accountability and transparency, disincentives for landowners, among other systemic shortcomings. These could be partly addressed through having clearly specified objectives, better targeting of policy, greater devolution of responsibility to the regional level and engagement of stakeholders in the approach taken.

Examination of Acts in other states would be desirable prior to devising a VMA because the more consistency across jurisdictions there is the better for some matters. This would be a concern for example around trade in wild-harvested products. At the time of writing, for example, the Queensland Government were

reviewing their Biodiscovery Act and the outcomes of this review, no doubt drawing on lessons learned in the administration of the present Act, could be used to inform the development of this aspect of new statutes.

The VMA would need implementing machinery in the form of delivery through the major agency responsible for natural resource management (Department of Primary Industries, Parks Water and Environment). There may be some implementing elements in more than one institution. The implementation of the Tasmanian VMA would be assisted by a Vegetation Management Policy Council (this is equivalent to the current role of the Vegetation Management Policy Advisory Group) with attendant reference groups or advisory panels as shown in Table 19.

Table 19: Proposed statutory advisory groups and the scope of matters for policy direction under each

Scope of Matters for Policy Direction	Proposed Advisory Group
Fire management	*State Fire Management Council
Information, species data	Vegetation Information Advisory Group
Conservation measures, in situ, ex situ, incentives, reserves	*Vegetation Management Policy Advisory Group
Research, training, education public awareness	Research and Training Advisory Group
Impacts, developments	Development Impacts and Assessments Advisory Group
Ecosystem services	Sustainable Vegetation Products Advisory Group
Sustainable vegetation products (including carbon markets)	*Interdepartmental Committee on Access to Genetic Resources

(* existing groups that would transition to new role)

High-level advisory groups for these topics are required because a VMA and regulations can only go so far in setting the framework, but knowledge and tools to achieve measures in these highly dynamic areas are changing rapidly. Advisory groups are desirable to ensure new information is evaluated and directed at informing the policy cycle. The advisory groups proposed here are high-level statutory policy groups. In addition to these advisory groups, a separate Tasmanian Vegetation Management Policy Advisory Council would be drawn from the other groups (at least the chairpersons), initially largely from the Vegetation Management Policy Advisory Group.

The groups would comprise membership drawn from within the State Service, government business enterprises, academia, professional institutes and learned societies and research organisations. Membership would be on the basis of expertise rather than representation of sectional interests. The small size of the Tasmanian Lower House and consequent overloading of ministerial portfolios, together with the diminution of the State Service in recent years indicates a need for high-level coordination of advice and a target for lessons learning resulting from a rapidly changing policy milieu.

The proposed VMA would need to specify actions in at least each of the measures described below. The intent in each topic is noted followed by some background justifying its inclusion. As the *Environment Protection and Biodiversity Conservation Act 1999* is such a difficult mix of statutory provisions under which to nest state legislation, I propose to go up one level to the articles of the Convention on Biological Diversity as a framework for a VMA. Leaving aside the administrative machinery of a VMA therefore, the proposed provisions would appear below.

While each of the sections below should be regarded as a guide to the scope of a VMA, all the detailed policy elements are not included here. The VMA should be pursued through a comprehensive review. The important thing is the shape of the Act and the principle of statutory councils supporting each of the major areas. These councils would include membership from across government and encompass both technical and policy expertise.

Under each of the parts of the VMA, the relevant CBD Article is listed. A brief description of the concerns of the particular Article is given. Following this is, by way of example, a list of some principles to be captured in clauses of the proposed act. This list is indicative rather than exhaustive. The proposed advisory group is named including existing groups that already play a similar role. The administrative arrangements are notes to be used for reference when developing the VMA. Background information captures some key aspects of the particular matter for the part and these vary in depth of treatment here. Notes on fire policy and on information are both treated in more depth due to their fundamental importance and the current policy gaps. Information is a crucial factor underpinning policy-making,

and fire has such profound influence over on-ground policy outcomes. It has also been an area of spectacular policy failure.

The policy elements listed under each part of the proposed Act are a sample of the most relevant documents and will be used in different ways. Firstly, they provide the main targets from which would be drawn prescriptions for the VMA. Secondly, some documents are key strategy documents that may be considered in the VMA.

Vegetation management requires a strategic approach at the state level with appropriate links between national and regional programs. The effort in this sphere must be serviced by appropriate policy instruments at all levels from macro to micro scales and all integrated with a process for adaptive improvement of policies.

A framework implies a supporting structure for a number of elements, or a system. Consider the issue of access to and use of native genetic and biochemical resources. There is a Nationally Consistent Approach for Access to and the Utilisation of Australia‘s Native Genetic and Biochemical Resources document that was prepared by Commonwealth and state/territory governments to assist in fulfilling obligations due to the Convention on Biodiversity. Each state and territory is in different stages of developing policies and legislation in accordance with the principles outlined in the Nationally Consistent Approach. These instruments are quite specific to a particular issue, but there is a vertically integrated framework emerging.

6.14 Governance and Policy

The term governance broadly encompasses formal and informal rules governing the behaviours and actions that society specifies as the requirements for achieving its priorities and goals (Steiner *et al*. 2003). The term may apply to business units within an agency to the administrative and business rules of agencies and above. The evolution of governance rules within Tasmania‘s major government agency responsible for natural resource policy has occurred over a short period from about 2000. This means the agency corporate plan goals are translated to divisional and branch business plans that guide the work of their constituent officers. In this way the general directions of government policy are effected in the actual tasks. The gaps identified above, therefore, may simply reflect legislative lacunae. In other cases the gaps may reflect lower priority issues given that resources in the public

service agencies must be directed to what are considered to be the higher priorities at any particular time. Governance structures have been organised to respond to the needs arising out of the Regional Forest Agreement to a large extent and include an RFA implementation group and a Vegetation Management Policy Advisory Group.

6.15 Discussion

In the above analysis, a great deal of activity under all the various policy headings is evident. There are many interconnected initiatives and the basis for this is the Regional Forest Agreement, which has tended toward joined-up cross-cutting thematic policy. This has countered, to some extent, a concurrent trend towards a process of policy layering and policy drift. This is an achievement that is possibly becoming more difficult while principal actors are scattered across government agencies with few forums in which to moderate and discuss policy development and new initiatives. It will also become more difficult as new issues and problems emerge that will begin to challenge the boundaries of the existing framework. The question is not so much whether learning potential is there, but who is available to do the learning. Learning takes place within specific programs and the reviews that generate these learnings address specific programs with varying attempts at wider integration. The loss of key personnel in these specific programs leads to temporal discontinuity in learning and militates against cross-cutting learning.

The national Native Vegetation Framework was the first attempt at applying the policy-learning model to vegetation management across Australia. The outcomes of the policy-learning were useful in acting as a mirror for the states and territories. The assembly of achievements under headings that all jurisdictions were required to report against allowed some qualitative comparisons and evaluation. The signalled intention of the Commonwealth (and states given the exercise was carried out under the COAG process) at the time of the first Native Vegetation Framework for five-yearly reviews may have been an incentive for governments to improve outcomes.

Policy-layering has perhaps been contributed to by the existence of another significant natural resource management policy framework in the form of the bilateral agreement to deliver the Natural Heritage Trust. This agreement has a range of undertakings across the spectrum of natural resource management issues

and is closely tied in with the Regional Forest Agreement process. For example, it acknowledges the work being undertaken to review the Permanent Forest Estate Policy and sets out a broad process for future reviews. Hence there is no apparent conflict or discrepancy between the NHT process and the RFA process due to the common actors involved in the mid- to high- level negotiations.

Tasmania has developed a method (F. Faulkner pers. comm. 8 August 2010) that will yield information on change in vegetation extent by using current satellite imagery overlaid on the most recent version of TASVEG. The process for doing this is shown in Figure 7. All states and territories were encouraged to prepare similar baseline and reporting capacity on this indicator by the National Land and Water Resources Audit in 2007. Tasmania prepared an initial baseline and five-year change assessment in the lead-up to the 2007 forest sustainability indicators report. There was another mechanism for reporting on vegetation change that involved accounting by the Forest Practices Authority of areas proposed for clearing or conversion in forest practices plans. The area figures obtained by both methods were in good agreement.

The structure of the framework used as a basis for this chapter reflects outputs and activities for progressing to outcomes that are contained in the principles of the initial national native vegetation overview (Griffin nrm P/L 1999). Outcomes need to be articulated first and Millennium Ecosystem goals perhaps offer a useful higher order one at the same hierarchical level as the Articles of the Convention on Biodiversity.

The picture emerging from the ―report card" of activities described in this chapter is strong success in aspects of vegetation and species conservation through reservation. Techniques for conservation on non-reserved land are not as well developed but are clearly improving as the result of program evaluation and feedback from landholders. The remaining aspects of vegetation management are difficult to track in the context of an integrated framework. For example, there is a prodigious output of research publications across the species and vegetation areas with particularly strong emphasis in eucalypt genetics and silviculture. Some good natural resource policy research is also produced. Different institutions and agencies, however, have set their own research agendas and while the list of

research outputs would look impressive when reported in a NVF report framework, the outputs are responsive to different agendas, and the link to government priorities is not always readily apparent.

There are numerous practical research questions to which government policymakers and vegetation managers need answers. These could be harvested from a whole range of policy documents and could contribute to a research strategy. For example, the empirical basis for various thresholds and rules that are used in the working application of on-ground vegetation management prescriptions. Obviously, research directions could be set by allocation of state government funding towards such research through the proposed advisory group dealing with research and training. One could get a similar sense across the rest of the activities shown in this chapter. There is a –shopping list" feel to the compiled actions; however, this may be partly due to the method required for reporting where lists of outputs are encouraged under headings that have no in-built outcome targets or measures.

It could be inferred that the vegetation policy landscape that generates this list of outputs may lack a cohesive framework. While there are integrating mechanisms such as the RFA, the Resource Management Planning System and various high-level strategies, they allow responsiveness rather than stamping direction on this policy field from the outset. The Nature Conservation Strategy attempts to be a leading document. It leads by proposing 15 priority recommendations and then descends through a goal, guiding principles, and areas of focus and then actions. The document is dense with detail, wide-ranging and clearly invested with a great deal of thought. It remains a useful guide for policy officers working close to operational areas, but in practice it has not carried the authority of a policy-influencing document in the vegetation sphere. It is also a useful list of actions but perhaps a reason for its lack of authority may be two-fold. Firstly, the strategy ranges over a number of themes and many of these have their own key strategy documents, for example the vegetation arena has both the Regional Forest Agreement at the state level and the Native Vegetation Framework (not mentioned in the strategy) at a national level. Both these instruments are linked into the bureaucratic processes that provide empowerment for policy action. Secondly, and related to the first, is that there was no power structure to carry the

recommendations forward. Other processes could select actions and absorb them into specific agendas but there was no top-down policy driver to implement the strategy in any formal sense. For example, there was no Nature Conservation Council and no imperative to have it drawn up into the COAG Framework. Furthermore, there is a need to assemble a detailed schedule of reporting and evaluation processes for the state.

We have seen that policy learning is an active process throughout this field and occurs at various levels. The contribution of this study to the policy learning exercise is for the thematic field at the broadest scale.

To implement the speculative framework proposed here would require consultation with a range of policy actors, particularly across government, initially at least in the forum called the Environment and Resources Heads of Agency group. This group deals with policy issues likely to affect a range of departments. The regime resulting from a proposed new Act or framework is referred to here as a speculative one because it has not been endorsed by government and therefore must remain a theoretical exercise for this thesis. It would allow *vertical integration* from the state through to national and international processes, because at the outset it uses an international framework against which Australia is required to report in any case. Thus an alignment of reporting could be implemented and more easily collated for national reporting. This is a central contribution of this thesis. It is recognition that the Commonwealth is exerting more control over natural resource management issues but also recognises the state‘s interests in continuing some policy leadership in this area. The benefits of the states‘ leadership is the chance for policy innovation and learning between jurisdictions and the avoidance of uniformly bad policy being exerted at any one time across the nation. The only chance for states and territories to take this leadership is to align their policy frameworks to address the concerns of a national government with international obligations.

The ability to absorb *lesson learning* at both program and policy levels is facilitated by the use of statutory advisory groups for each of the major –eoncern” areas. These are responsible to a higher level group (Environment and Resource Heads of Agencies) that would vet policy advice. The advisory committee approach allows rapid evaluation and implementation of lessons from policy and programs. The

importance of introducing the statutory advisory groups is particularly important in Tasmania where, given the small size of the Lower House of Parliament (25 elected members), a government with a small majority may struggle to allocate its ministerial portfolios. Ministers may have multiple portfolios and the consequent pressure on them to have well-argued policy options indicates a need for strengthened higher level strategic policy advice within the State Service.

Using *CBD articles as reference points* in the parts of an Act strengthens the integration of conservation and commercial access under sustainable use principles and should assist in shifting opinions and perspective away from a stark conservation versus commercial use dichotomy.

Introducing *monitoring and evaluation* of vegetation type, extent and condition as a statutory requirement will be fundamental but does not need to be prescriptive as to what methods are used. A similar level of expressing requirements would be needed throughout an Act so the requirement is established in principle, but still allows for a continuously changing technical capability to design the monitoring techniques.

The proposed model Act (see Appendix 5) traverses responsibilities that are now scattered under the control of various public policy actors. By integrating as many of these as possible under the one instrument and introducing advisory committees whose membership will need to encompass people from outside a single government agency, strong encouragement will be given to joined-up policy. This will occur at the statutory and sub-statutory levels.

An advantage in amalgamating say, all nature conservation-related Acts, is in the public perception that red tape is being reduced. The government would be able to make a positive case for the reduction from several Acts to one Act. This is the same approach as the Australian Government‘s with the original promulgation of the EPBC Act. It would also be less wieldy to manage.

The scope of vegetation management policy for Tasmania must comprise a range of particular issues and subjects. The ―vertical" or intergovernmental integration of vegetation policy is important. For the purpose of this thesis a thematic or sectoral public policy framework could not usefully be written that is confined in its perspective to one tier of government. Considering the interconnections or lack of

them, across all tiers of government is crucial, hence the development of an Australian perspective.

As an early step in developing a new Act a statutory review can be conducted in conjunction with an administrative one. To maximise policy learning, electronic tracking of some key activities, such as reports resulting from scientific permits and advice given on development applications, can improve consistency, efficiency and transparency. Taking an administrative and procedural perspective for a moment, the role of e-Government has been a focus for analysts examining public sector reform in Europe. The reach and scope of e-Government has been put in place throughout Europe (Baptista 2005) and helps to serve a number of goals of European governments in the use of information and communication technologies. Lessons from such work could be usefully examined for its applicability in Australia, particularly in assisting with adaptive policy development.

The notion of ecologically sustainable development is now embedded in many of the major natural resource policy documents at the national level in Australia. The idea of sustainable development has been a broad framework allowing analysis and policy learning both in this country and overseas. For example, the response of a federal government to the need for sustainable development strategies and the evaluation of them, has been examined in the Canadian context (Plummer 2006) in respect of agency management elements such as governance structures. Plummer (2006) uses a management assessment model to analyse the management system. The model can be used as a descriptive, analytical or evaluative tool. The perceptions of different policy drivers vary markedly in terms of understanding of sustainability. Agenda-setting for a policy framework does not need to respond simply to narrow interest groups or advocates with poor or defective knowledge of matters for vegetation policy. It may mean better responses and monitoring, and better transparency and certainty: defensibility using tests of principles from ESD, the national Biodiversity Advisory Committee and even commonsense principles. ESD principles will be incorporated into the Act proposed here because it is explicit in the CBD articles on which its structure is based

From Chapter 5 it was concluded that great policy gains and achievements of real outcomes in vegetation management can have huge improvements through better

intergovernmental relations. Therefore the state should insist on the Commonwealth taking seriously the National Coordinating committees and the COAG framework under which they sit, and meetings should be regular and geographically fairly located. This is important in *agenda-setting*. Reporting back should be through the chair of the Vegetation Management Policy Advisory Group. Getting some alignment of state policy with some national policy drivers such as the CBD will be important. Agenda-setting from organisations outside the traditional interest group concerned with vegetation can be expected to increase in ways that influence how vegetation policy is treated. For instance, groundwork has been made in respect of integration of government effort and national uniformity that will eventually be exerted across the whole of this policy domain. As another example, the Business Council of Australia argues for reduction in government regulation, streamlining functions, and reducing overlap (Anderson 1993).

If the policy settings are perceived to cause high negative impact on vegetation they could be politically adverse. If policy settings result from strongly driven particular sectoral interests, there may be perverse outcomes for vegetation conservation. This has occurred, some would argue (Brown and Hickey 1990) by the emphasis on wilderness reservation at the expense in public debate of promoting reservation of representative ecological vegetation types. A logical integrating mechanism would be the promulgation of a Vegetation Management Act such as canvassed here, into which can be incorporated the best of existing policy, as well as previously neglected areas such as bioprospecting.

Forests managed for wood production are subject to a comprehensive management framework with in-built reflexivity, adaptability and evaluation (Thackway *et al.* 2005), which contrast with forests in lands managed by the Parks and Wildlife Service. In the latter case there is no monitoring and evaluation framework apart from that in the World Heritage Area. Vegetation is not managed for the dynamic processes of fire, disease and other aspects in any strategically coordinated sustainable and transparent sense, especially on land outside State Forest.

The structure of agencies plays an important role in determining the level of interaction and communication between elements of the bureaucracy. Restructuring in the Tasmanian State Service in 2009 sensibly brought the Royal Tasmanian

Botanical Gardens into the same agency responsible for vegetation policy. Perhaps the incorporation into the same agency of the Tasmanian Herbarium could strengthen and develop some critical interactions, especially in terms of enhancing plant species data inventories, taxonomic support for weed management, and species identification for conservation.

While the focus here is the proposition of a Vegetation Management Act, it is recognised that this theme is often considered within the context of biodiversity in general. If there were revision of the legislation encompassing all biodiversity themes for Tasmania, this would not invalidate the proposition developed here. The vegetation theme could be included in a broader Act in the form suggested here, but as the first part (i.e. the part dedicated to vegetation).

Vegetation should have primacy in biodiversity legislation on the basis that its conservation management will determine land use patterns from the catchment to the regional and state scales. Other elements should follow because some principles and prescriptions will be able to follow the groundwork laid down either by a stand-alone Vegetation Act or in a "Part A" of a broader Biodiversity Act.

Consideration of a VMA would impinge on many interests and values and will require considerable preparatory work if it is to be considered. There may be political problems in moving towards such an Act but there may be political opportunities as well. Chief among these is the benefits to be claimed from streamlining vegetation policy and regulations. It can also be said that the Commonwealth's proposed changes to the *Environment Protection and Biodiversity Conservation Act 1999* may well require changes to the state Acts and it would be better to take an active stance.

Extensive consultation would be required prior to framing a new Act. This could be commenced with the consultations that will be required for another purpose. At the time of writing, the Department of Primary Industries, Parks, Water and Environment was considering a revision of both the Nature Conservation Strategy as well as the Threatened Species Strategy. This would provide an opportunity to widely canvas the scope of issues, the ways in which they can be dealt with and at what hierarchical policy level. That is, the scope of issues considered appropriate

for legislation would be identified. If the consultation was conducted widely over a reasonable period of time it can become a social learning exercise for stakeholders and policymakers alike. Tasmania is ready for a VMA because there is too much policy and legislative fragmentation at present and the consolidation of presently disparate elements should at least have public appeal. Once this proposition is embraced it is then a short conceptual distance to accepting the addition of relevant additional elements to fill policy gaps.

6.16 Chapter Summary

Much has been achieved under the existing policy regime in vegetation management in the state. In fact, some achievements have been world class—such as the building up of the reserve system. There have also been good integrative policy initiatives such as the implementation of the Resource Management Planning System that brings together various environmental and planning policy instruments. It is also clear that when achievements across a vegetation management spectrum that includes policies, legislation, strategies, reserves, assessment and monitoring, incentives, community engagement and capacity building two things are clear. The framework itself is oriented to conservation of vegetation rather than incorporating other issues under an ESD framework, therefore a policy gap around biodiscovery and access to genetic resources is not dealt with. Secondly, while some integrative measures have been put in place, such as the RMPS and the RFA, there is a sporadic ―shopping list" feel to the catalogue of achievements that indicates incrementalism and is consistent with agenda-setting that is external to the state. A checklist that is more outcomes based when used to explore gaps in the vegetation policy landscape does indeed reveal a number of gaps, but moreover the checklist can also be matched to the main articles of the CBD. This means that policy framework could be mapped to the articles of the CBD and both cover the main concerns as well as bring a Tasmanian framework into alignment with a key policy driver of the Commonwealth as the main agenda-setter.

The gap analysis showed missing vegetation policy elements, especially in relation to sustainable use and the satisfaction of Millennium Ecosystem Assessment goals relating to ―a good life" for the human population. The existing vegetation management framework is constructed around the Regional Forest Agreement and

operates alongside of a collection of Acts and policies supported by a Resource Management Planning System. It is essentially an industry sustainability plan that has been stretched to cover many aspects of vegetation. Extra policy instruments and mechanisms are added, as needed, these often being driven by requirements from the Commonwealth. The Regional Forest Agreement has been a key high-level integrating policy instrument that nevertheless has failed to check some policy layering and policy drift. A stronger integrating, more comprehensive vegetation policy framework is required.

The gap analysis showed that the CBD articles encompassed all the concerns that needed consideration in a more comprehensively developed vegetation policy framework. The next chapter outlines a new policy framework that should address some of the fundamental problems identified so far in this thesis.

The structure a VMA follows most of the core articles from the CBD and encompasses therefore the sustainable use of vegetation products as much as conservation.

An important provision in a proposed Act described here is for statutory advisory groups that can adopt learning from policy monitoring, evaluation and implementation. This addresses something that became apparent in the exploration in the previous chapter of some formal policy evaluation. That is that what is to be learned will be much advantaged by having some mechanism for learning continuity—this is the role of the statutory advisory groups.

CHAPTER SEVEN

CONCLUSION

The arguments and evidence put forward in this thesis demonstrate that Tasmania's vegetation policy is not only a worthy focus of policy analysis and development but has lacked critical examination in its full potential scope. The development of public policy on natural resource issues has been late in Australia and this study shows that the case of vegetation policy in Tasmania confirms the view of Dovers that "ad hockery" (Dovers 2003:3) typifies environmental policy. The vegetation policy landscape in Tasmania is disjointed and is bereft of "joined-up" aspects. It exists in a complex web of interrelationships dominated unequally by three tiers of government. Some credit for what functional operability there is in the current vegetation policy framework must be given to a small number of key actors with "corporate memory" and a good overview of processes and drivers. These few key actors across various agencies have been involved together in developing key policy instruments such as the Regional Forest Agreement and are in contact through various interdepartmental committees and processes. This would be largely invisible to external analysts, but must be a critical ingredient in the policy landscape.

In Chapter 1, I proposed one research hypothesis and posed five research questions. The hypothesis was that there has been no comprehensively articulated development of vegetation policy in Tasmania beyond policy development around the requirements of one particular resource industry. This has resulted in some policy areas being overlooked, relegated to a low priority, or subject to work driven by immediate needs. Evidence presented in this thesis supports this hypothesis. The first research question related to how vegetation policy developed in Tasmania, particularly when measured against a national reporting framework. I have demonstrated that an evolution of vegetation policy has occurred from the earliest Tasmanian periods to the present. Insights can be established by employing a whole range of theoretical perspectives, and while good examples exist that could demonstrate such theoretical constructs, a consistent application of policy learning theory proves to be most productive for a study such as this, which is evaluating the development of a policy.

Close inspection (Chapter 6) revealed a broad range of initiatives and accomplishments. Many of these had been carried out to satisfy the requirements of the Regional Forest Agreement, including the recommendations from its two reviews and the Supplementary Forest Agreement. This set of documents has provided a policy framework for vegetation. There are policy learning aspects built into this process in the form of reviews that recommend policy, information, research and other improvements. This Regional Forest Agreement framework has generated many of the advances in vegetation management in Tasmania since 1998. The framework developed to provide policy support for the commercial forestry industry has even been extended in some instances to support management measures in native non-forest vegetation. However the RFA framework could not continue to be expected to carry non-forest industry-related policy elements. Prior to 1998, Tasmanian vegetation management developed in a very undirected way, as was shown in Chapter 3. Almost all the initiatives, however, emanated from within the state prior to the early 1980s.

In this thesis I have examined how intergovernmental relationships are evolving in respect of responsibilities for natural resource management in general and vegetation issues in particular, in terms of what are the appropriate responsibilities of the different tiers of government? Evidence of a profound shift in the relations between state and federal tiers of government in respect of natural resource management was presented, particularly the time since the early 1980s when the Commonwealth government began to exert its influence on national (and state) policy directions. This resulted from the exercise of overriding powers the Commonwealth had in respect of international treaty obligations. This was the driver for much of the state work being contributed to reporting requirements, such as that required for forests under the national State of the Forests Report, which has also formed Australia‘s reporting contribution to the Montreal Process.

Broad national policy documents have been shaping state policy directions. The National Biodiversity Strategy was a major strategic policy document prepared as part of Australia‘s obligations under the international Convention on Biological Diversity. An attendant policy document was Australia‘s Native Vegetation Framework that included evaluation and learning assessments against key criteria.

The process was signed off by ANZECC and included obligations for some jurisdictions relating to the introduction of vegetation clearing controls. The link between the Commonwealth's role in these documents and the Convention on Biological Diversity is critical in the argument in this thesis for forging a greater nexus between the major state and Commonwealth policy instruments. This would be a nexus that recognises Australia's national responsibilities and taking an Australian perspective on state policy.

The arguments in this thesis contend that the exercise of the Commonwealth's powers has profoundly influenced vegetation policy in Tasmania, particularly through the control over exports and the consequent development of one of the five Australian Regional Forest Agreements. The *Environment Protection and Biodiversity Conservation Act 1999* also provided a number of areas where the Commonwealth could intervene in state vegetation matters, especially if one of the so-called ~~"tr~~iggers" was activated. The triggers were mainly, but not exclusively, to do with national obligations under international treaties and agreements. These triggers include RAMSAR listed wetlands, World Heritage Areas, nationally listed threatened species, migratory species protected by international agreements and listed ecological communities.

The role played by local government has largely been little noticed alongside the state–Commonwealth dialogue. Local government has become more prominent in vegetation management as shown through the recognition by the Howard Government's delivery of some components of the Natural Heritage Trust. The role of local government was strengthened with the establishment of the natural resource management regional framework for delivery of vegetation and other natural resource management initiatives.

I argue that local government has begun to take responsibility for aspects of vegetation management under their planning schemes, as well as being involved through representation on the statutory NRM regional committees. This on-ground involvement is appropriate for local government in partnership with other actors such as the NRM bodies, landowners, consultants and non-government organisations. It appears certain that local government, in conjunction with NRM

authorities, will assume a much greater role in future in on-ground vegetation management and reporting.

The evidence in this thesis shows that the policy landscape is evolving towards even stronger national agenda-setting, where states and territories will manage information and policy in their jurisdictions, largely in closer conformity with national goals. Local bodies carry out on-ground vegetation management. Until the advent of the Regional Forest Agreement, the gap for Tasmania was an overarching policy framework. The expiry of this agreement in 2017 provides an opportunity for considering the adoption of a more integrated framework. A Native Vegetation Act could provide, for example, such an integrating mechanism.

Lacunae appear at different scales in Tasmanian vegetation policy when it is assessed against broad frameworks such as the Convention on Biological Diversity. For example, all policy requirements under the Regional Forest Agreement have been addressed. Taking what might be a broader framework view, in this thesis I have shown there are policy needs in respect of fire, monitoring, vegetation products and ecosystem services of vegetation. The framework proposed here should be able to integrate presently dispersed elements and act as an umbrella for logical policy development, accounting for a wide range of ecosystem services and human benefits provided by vegetation. One of the research questions in this thesis was that "What can be learned in the Tasmanian vegetation policy arena and are policy learning theories able to illuminate the way natural resource management policy in general, and vegetation policy in particular, should develop?".

The policy learning approach that originated with Heclo (1974) has since developed sufficient conceptual flexibility in this approach (Howlett and Ramesh 2003) for use in the present study. For example, the present study showed that in the pre-1970 periods, some indications of lesson learning were discovered but these are rare prior to 1970, a period most clearly characterised by a policy vacuum. After 1970, policy transfer, social learning, political learning by advocates, technical learning, conceptual learning, policy convergence, evidence of advocacy coalitions, and the now widespread practice of incorporating monitoring and evaluation in programs and policies to effect learning were all identified.

While this thesis uses a policy-learning framework there inevitably are consequential implications best examined in the context of other theoretical lenses. For example, the effectiveness of tools to secure vegetation conservation values on private land will invoke policy design principles. The stimulus to do this will stem from lesson learning that results from well-evaluated programs. The lens of the Advocacy Coalition Framework is a useful construct but was not considered productive towards the aims of this thesis. There is a potentially rich field provided by Australian natural resource policy using this analytical lens and the particularly politically interesting early 1970s have been examined by Davis (1980) in this way. This thesis has been more focused on the evidence-based links from policy design to policy success or failure as indicated through lessons from evaluation measures.

Policy learning has proved to be a pragmatic and logical theoretical lens for analysis of a technical substantive theme of public policy such as vegetation management. Policy learning was deployed as the lens through which historical developments were viewed in Chapter 3. I have discussed how the span of European occupation in Tasmania could be divided into particular stages that appeared to be defined by policy attributes. Any progression in vegetation management resulting from policy learning was sought and it was found that precious little evidence of policy learning was evident up to 1970. The field seemed characterised by ~~a~~d hockery and amnesia" (Dovers 2003:3) to borrow a phrase from Dovers (Dovers and Wild River 2003). Vegetation management policy is a large field and a policy-learning theoretical approach proved well suited to an examination of its scope and effectiveness. Although learning is only one part of the classic policy-learning cycle it is critical in a field where large investments are being made and where the outcomes will have some effect in other policy areas such as climate change mitigation. As shown in the latter part of Chapter 3, the evidence for policy learning appears in recent times, when the repercussions of sub-optimal or absent policy is much greater, because of the increasingly large amounts of money involved in the sector.

The extent to which lesson learning has been invoked to produce the current policy framework was examined in Chapter 4. If the principal characteristic of policymakers is in pursuing and synthesising ideas, information and analysis to

generate options then we have seen such activity increasingly evident in the periods following 1970. Yet it is clear from the present study that really coherent joined-up vegetation policy has not resulted. While there are examples of learning, these occur in silos and there is little opportunity embedded in the existing policy framework that facilitates collection and application of lessons across the whole vegetation policy spectrum.

In earlier chapters I showed that the Regional Forest Agreement and attendant processes provided the only cross-cutting mechanism that brought together two directions in vegetation policy: that dealing with sustainable uses of vegetation and plants, and that dealing purely with conservation aspects. If the Regional Forest Agreement has worked, why not extend it beyond 2017? Within a new framework, the RFA could become an industry sustainability plan in which it would be relieved of providing an umbrella for policy measures beyond what is relevant to the particular industry. Some existing measures developed under the RFA can be incorporated into a new framework.

Since the advent of substantial policy instruments covering vegetation in 1970, there has been a tension between state-driven and externally driven agenda-setting. The best way forward for Tasmania will clearly be to accept the increasing agenda-setting role of the Commonwealth by structuring our policy milieu to vertically integrate with national policy frameworks and the international principles espoused in the Millennium Ecosystem goals and the Convention on Biological Diversity. This will provide a better stance for the state from which to actively engage the Commonwealth. Another critical potential benefit that lay in this direction is that the major international policy instruments emphasise the importance of human wellbeing and economy, as much as conservation. More focus on both these strands in combination inevitably leads to an ecological sustainability framework. Encouraging such a perspective can only help in decreasing the polarity that tends to dominate Tasmanian natural resource discussions.

In this thesis I propose a new framework in response to the final research question that asked what type of policy framework could guide future vegetation policy and discourse. The characteristics of such a framework include its ability to integrate under one instrument a collection of existing measures that are scattered through the

policy landscape. If the framework now represented by new legislation could allow upgrading of some measures from lower order instruments it should serve to update, integrate and provide a new head of power for a new re-ordered collection of lower order policy instruments.Vegetation is the most substantial theme in natural values management and elevation of its subject matter is fitting. A new framework can be structured to assist vertical integration by mapping its parts to relevant Articles in the Convention on Biological Diversity. The framework should specify the creation of advisory groups that not only assist in the promotion of cross-cutting measures but answer the question: who learns?

I have shown in this thesis that the integration and sustainable use of vegetation and plant products with conservation goals has been distinctly lacking. This may be a product of policy reaction to the development consolidation period (1901–1970) where exploitation of primary resources was pre-eminent within a very sparse policy framework. The resulting polarisation was not addressed until the ecologically sustainable development policy initiatives at the national level in the 1990s. The initiative receded, however, thus giving the argument for a new vegetation policy framework in the state more compulsion. With a new Act that can be forged from the need to weld these two directions together, cross-cutting policy can become elevated to cover all vegetation policy in an ecological sustainability paradigm. Such a paradigm, despite some failures in persistence (Dovers, 2003) deserves to be re-exerted.

In Australia‘s short history, we can see the development of vegetation policy paralleling the rise and fall of major social and economic movements. This has reached the point where vegetation policy development is an important aspect of government business, with a compelling case for addressing the gaps, disjunctions and overlaps in the existing policy landscape.

The major contribution of this thesis is the conception and outline of a proposed integrated framework that allows for policy learning and continuity. This arises from two main findings. The first is that the policy landscape is beset by a plethora of instruments in a fragmented milieu characterised by great complexity. The dominant instrument, the RFA, carries an insufficient Head of Power to extend across all the emerging and potential issues that should be in the ambit of a single

piece of legislation about native vegetation. The second main finding of this thesis relevant to a new policy framework is that the Commonwealth has increasingly extended its agenda-setting, partly driven by national obligations to international agreements. By recognising this and aligning our vegetation policy with the national policy framework (and hence the international framework) we are taking an Australian perspective to our vegetation policy. This can be constituted so it still allows policy innovation by states within agreed national guidelines, and provides learning opportunities and policy transfer across jurisdictions.

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APPENDIX 1: Australian Governments from 1972

Gough Whitlam 1972–75

Malcolm Fraser 1975–83

Bob Hawke 1983–91

Paul Keating 1991–96

John Howard 1996–2007

Kevin Rudd 2007–2010

Julia Gillard 2010–

APPENDIX 2: Tasmanian Governments since 1969

Angus Bethune 26 May 1969–

Eric Reece 3 May 1972–

Bill Neilson 31 March 1975–

Doug Lowe 1 December 1977–

Harry Holgate 11 November 1981–

Robin Gray 26 May 1982–

Michael Field 28 June 1989–

Ray Groom 17 February 1992–

Tony Rundle 18 March 1996–

Jim Bacon 14 September 1998–

Paul Lennon 21 March 2004–

David Bartlett 26 May 2008–

APPENDIX 3: Harris, S., Shaw, J., and Crane, N. (2009) Planning the integration of ex situ plant conservation in Tasmania. *Cunninghamia* 11(1): 123-130.

APPENDIX 4: Harris, S., Allen, K., Baker, P., Bird, T., Bowman, D., Connolly, A., D'Arville, L., Harwood, C., Rozefelds, A. and Wardlaw, T. (2009) Guidelines for collecting and conserving dendrochronology samples from Tasmanian public reserves. *Tasforests* 18:145-157.

APPENDIX 5: Template for a Vegetation Management Act

1.1 Proposed Native Vegetation Act Part One

1.1.1 CBD Article 6: General Measures of Conservation and Sustainable Use

This article of the Convention on Biological Diversity is concerned with plans, strategies or programs for conservation, sustainable biodiversity use and the integration of conservation and sustainable biodiversity use into joined-up policy and cross-sectoral programs and plans.

Proposed Principles

- Develop strategies and action plans consistent with national goals, particularly the Native Vegetation Framework, for vegetation management.
- Ensure industry sustainability plans address a minimum set of core principles.
- Maintain a current Nature Conservation Strategy with a review date similar to the Native Vegetation Framework.
- Develop and maintain a set of operational policies that guide its business in this theme.
- Ensure vegetation management standards and protocols are uniform across the regions.

Proposed Advisory Group

- Vegetation Management Policy Advisory Group

Proposed Administrative Arrangements

The actions under this part of the proposed act are core functions of state government in the lead agency responsible for vegetation policy. Policy specialists would lead in the actions under this part.

Background Information

The Tasmanian Government established a biodiversity-planning program within the Department of Primary Industries, Parks, Water and Environment to coordinate the development and implementation of regional biodiversity plans. To date, regional plans are being developed for three Tasmanian regions, South, North and Cradle-

Coast. These three regions cover Tasmania and include the agricultural zone where flora conservation is being given priority due to the extent of the threats on native plant species, directly resulting from agricultural practices. The biodiversity plans identify conservation priorities for each region, including significant biodiversity assets, plant communities/habitats, species of significance and key biodiversity areas, and as such provide a platform for developing the Project‘s collecting priorities.

Proposed Policy Linkages

The proposed act would have policy linkages to:

- Australia‘s Biodiversity Conservation Strategy 2010–2020 Consultation draft: actions 1.1.2, 1.2.1, 2.2.1
- Australia‘s Native Vegetation Framework Consultation Draft (February 2010): actions 1, 9, 13, 15.
- Legislation under the Resource Management Planning System

1.2 Proposed Native Vegetation Act Part Two

1.2.1 CBD Article 7: Identification and Monitoring

This article of the Convention on Biological Diversity is concerned with identifying biodiversity components and the elements important for sustainable use and conservation; monitoring; gaining ecological understanding, especially understanding potentially adverse processes and impacts on conservation and sustainable use; prioritise conservation targets; and collect relevant data.

Proposed Principles

- State to maintain a vegetation map supported by technical specifications and guidelines.
- State to support cross-tenure data collection on the condition of native vegetation.
- State to provide guidelines for collection and management of vegetation type, extent, and condition information.
- State to periodically review the change in these change in these variables.

- Conduct biological monitoring of vegetation including biosecurity and disease and exotic species.
- Specify that monitoring and evaluation must be built into the Act at the policy review level and also at the program level. Appropriate tools and mechanisms will enable evaluation and learning and feedback.
- Clarify definitions of reservation status, priority species and communities, species of local and regional significance, special habitat. Priorities for weed management in native vegetation—complete district weed manuals and a guide for each NRM region that summarises regional priorities.
- Provide for vegetation management prescriptions for major vegetation groups—cross-referenced with TASVEG communities. Baselines for monitoring projects, and lists of vegetation conservation priorities, need to be developed, maintained and refined.
- Develop, review and maintain monitoring and adaptive management strategy across the state.
- Implement information strategy for users of vegetation information and data.

Proposed Advisory Group

- Vegetation Management Policy Advisory Group

Proposed Administrative Arrangements

A Flora Advisory Committee currently examines potential threatened species listings and delistings. It could be broadened to determine species of regional significance.

Closer alignment of the Tasmanian Herbarium in the Department of Primary Industries, Parks, Water and Environment with vegetation policy and monitoring and the Royal Tasmanian Botanical Gardens, would have a good outcome for data management and work task alignment.

Background Information

(a) Fundamental information tools could include:

- Vegetation mapping at 1:25,000 scale with a revision and maintenance program linked to a periodic change monitoring assessment for extent of native vegetation cover.
- Published descriptions of all the mapping communities, including the cross-referencing with National Vegetation Information System communities, giving floristic community equivalence, nomination of a type locality for the community (in reserves or management areas), and including photographs of facies, and flags for the type for rare and threatened species.
- A database of species reservation status linked to the national Conservation and Protected Areas Database (CAPAD).
- Interfaces for accessing the information for bioregions, NRM regions, catchments, and sub-regions if necessary by incorporating these fields in relational databases.
- Identified conservation priorities for native vegetation communities supported by an explanation of the scientific process underpinning the prioritisation.

(b) The relationship between some flora portals and databases

A high level of inter-agency coordination exists for vegetation data in recognition of the importance of having a whole-of-government information source. TASVEG is evolving as a basic information layer for vegetation. Maintenance of business rules and protocols for managing or changing this data involves endorsement through the inter-agency Vegetation Management Policy Advisory Group.

While some categories of species data is reported on in the Regional Forest Agreement reviews, the National Reserve System, the State of the Environment report, Sustainability Indicators reporting and the National Terrestrial Biodiversity Audits, there is little inter-agency coordination of data. The risks arising out of uncoordinated data distribution and management would be the same for species as well as vegetation. These include declining data quality over time leading to a lack of credibility for the dataset among the client group, conflicting results arising from different datasets, and the waste of resources that can result from data managers who compete rather than cooperate are dangers of uncoordinated data management.

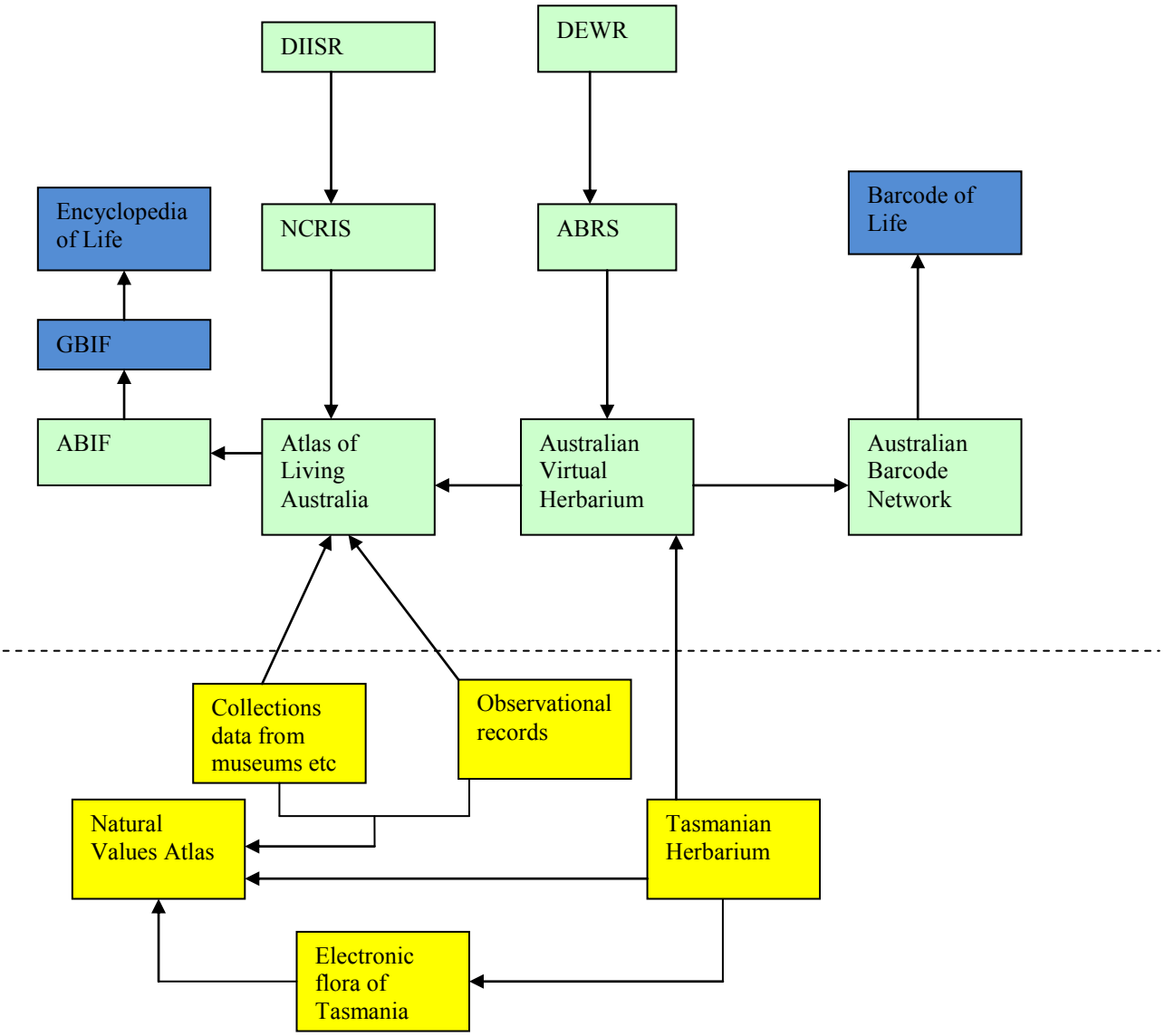
The different ways of curating data within different organisations can lead to inefficiencies when integrating data.

A number of different agencies and organisations collect and maintain species data—for example, the Tasmanian Herbarium in the Tasmanian Museum and Art Gallery assumes a key role in managing data about its plant collections. This data includes locality and habitat information. Forestry Tasmania maintains species records. The Department of Primary Industries, Parks, Water and Environment maintain a large database Natural Values Atlas (NVA) with vouchered records from various collections as well as observational records. Records from diverse sources are incorporated into the NVA subject to a reliability checking process. The coordination of species data within the state is very important not least because the relationship of state-generated data for input into wider national and international processes needs to be clear. At present there is little transparency about the management of species data.

There is lack of clarity about the interrelationship of a number of species databases and portals. The relationship of flora species databases is shown in Figure 8. An explanation of the databases and portals is sketched out.

Figure 8: Interrelationship of species databases and portals.

Yellow elements are Tasmanian, Green are Australian, Blue are international



Key to acronyms: DIISR (Department of Innovation, Industry, Science and Research), NCRIS National Collaborative Research Infrastructure Strategy), DEWR (Department of Environment and Water Resources), ABRS (Australian Biological Resources Study), ABIF (Australian Biological Information Facility), GBIF (Global Biological Information Framework).

TERN (Terrestrial Ecosystem Research Network) had an allocation of $20M from a Commonwealth research infrastructure program allocated for accessing data including observational data. The Global Biodiversity Inventory Framework (GBIF) is a global federation of species databases, names, and specimen data. The Australian Biological Inventory Facility (ABIF) also acts as a portal for the Atlas of Living Australia.

Much new Australian plant taxonomic data, for example through the CERF (Commonwealth Environment Research Facility) funded work at the Centre for Plant Biodiversity Research, will be deposited in the Atlas of Living Australia.

Managing state-owned or generated data upwards into these information systems needs to be coordinated and pro-actively managed. It is timely to consider a state inter-agency group to agree on a framework and protocols for species and vegetation data management.

While vegetation information is closely coordinated for the state across state government, species information is not. Management of data including development of business rules and protocols is agreed by stakeholders. A high-level policy group deals with decisions about the information that might have policy implications. The driver for these management systems is the prominence of vegetation information in processes that are underpinned by political and formal agreements. The risks arising out of uncoordinated data distribution and management would be the same for species as well as vegetation. These include declining data quality over time leading to lack of credibility for the dataset among the client group. There is also the different answer that can emerge from different datasets and the waste of resources that can result from data managers that compete rather than cooperate.

Species data management in Tasmania is fragmented and regarded by different agencies as their own responsibility. For example, the Herbarium of the Tasmanian Museum and Art Gallery assumes a key role in managing data about its plant collections. The metadata with these collections includes locality and habitat information. This information is also used as Tasmania‘s key input into the Australian Virtual Herbarium. This enables anyone to access information on the Web about Tasmanian plants.

There is an historical tendency for museums and herbaria to operate independently, which is outside the main natural resource management policy framework. The extent to which this is true for species is less, but species status is reported on in the RFA, NRS, and threatened species arenas and used in formal assessment processes for developments.

Proposed Policy Linkages

- Australia's Biodiversity Conservation Strategy 2010–2020 Consultation draft (National Biodiversity Strategy Review Task Group 2009): actions 1.1.1, 1.2.1, 2.1.3, 2.2.2, 3.1.1, 4.1.2, 6.1.1, 6.1.2, 6.1.3, 6.2.1, 6.2.2, 6.3.1, 6.4.1.
- Australia's Native Vegetation Framework Consultation Draft (Native Vegetation Framework Review Task Group 2009): actions 2, 3, 4, 5, 7.
- LUPA and RMPS
- Threatened Species Protection Act 1995

1.3 Proposed Native Vegetation Act Part Three

1.3.1 CBD Article 8: In-situ Conservation

This article of the Convention on Biological Diversity is concerned with conserving biodiversity through reserves and developing the guidelines for selecting, establishing and managing such areas; regulating biological resources for sustainable use and conservation; promoting the protection of viable species populations, ecosystems and natural habitats; and encouraging sustainable development in areas adjacent to protected areas. It also addresses promoting threatened species recovery and protection, and degraded ecosystem rehabilitation; regulating and managing the release of modifies organisms resulting from biotechnology that may have adverse impacts on conservation and sustainability; controlling, eradicating or preventing the introduction of alien species; sustaining indigenous knowledge and its application to conservation and sustainable biodiversity use; and managing processes that have an adverse effect on biodiversity.

Proposed Principles

- Ensure the maintenance of a Comprehensive, Adequate and Representative reserve system.
- Reinforce barrier controls and quarantine arrangements considering nursery and botanical gardens seed exchange programs.
- Establish in regulations, appropriate weed management and disease spread prevention measures.

- Fire policy will be developed for the state with involvement of state and local governments and the NRM regions.
- Develop fire policy to apply across tenure.
- Coordinate fire policy through the Tasmanian Fire Service as the agency responsible for the statutory advisory (policy) group.
- Include measures in the fire policy to preserve a range of vegetation types across the landscape.

Proposed Advisory Group

- Vegetation Management Policy Advisory Group

Proposed Administrative Arrangements

While some high-level references to fire would be made in the Vegetation Management Act, the Chair and Secretariat for the Advisory Committee would be under the auspices of the Tasmanian Fire Service (the operational arm of the State Fire Commission).

Background Information

(i) Reservation

Reservation candidacy is normally determined on the basis of comprehensive, adequate and representative examples of vegetation. Vegetation type acts as the surrogate for the other elements of biodiversity. The maintenance of a reserve system (CAPAD) database and other reserve planning tools would be provided for, as it would also provide for the prioritisation of candidate areas. The effectiveness of the present system of reserves in terms of sustaining plant species populations, maintaining resilience (against threats such as weeds and climate change) is not adequately monitored. Recent decades have seen a move towards a whole-of-landscape approach where the contribution of remnant vegetation in rural landscapes is considered as important as formal reserves.

The establishment of fixed lines on maps and boundaries on the ground delineating formal reserves, unfortunately, does reinforce the public perception of nature being static. This might be the perception of particular growth stages of forest or vegetation always occurring in the same place, or the appearance of the vegetation

remaining unchanged. This is the ―freeze-frame problem". It is also a phenomenon that would also repay some sociological research focus.

(ii) Biosecurity: excluding invasive species

Since European settlement, the impact of vegetation clearance, introduced plants, animals, and unnatural fire regimes have cumulatively resulted in the fragmentation and degradation of ecosystems throughout Australia. It is therefore imperative that remnant vegetation be effectively conserved and degraded landscapes restored in an effort to stem the rapid loss of plant and animal biodiversity that is currently being experienced at a national level.

(iii) Fire

Australian fire management is driven, at all levels, by reaction to severe episodic fire events and operational issues such as equipment, suppression and fuel reduction. Fire-fighting prescriptions, ecological scientific knowledge and other factors have an unnecessarily discordant interrelationship. There is a surprising absence of policy at the government level that provides a framework for reconciling tensions inherent in fire issues.

The public policy and administrative frameworks surrounding fire management should be examined to look at ways of improving understanding and communication and improving the nexus between elements such as the fire behaviour researchers, fire ecology researchers, fire operational personnel, the public, biodiversity managers, the insurance industry, Aboriginal community and others. Evidence of great disjunctions appears between some of these groups and they must be addressed in order to advance the management of fire in Australia.

Proposed Policy linkages

- Australia's Biodiversity Conservation Strategy 2010-2020 Consultation draft: actions 1.1.3, 1.1.4, 1.1.5, 4.2.1, 4.2.2, 4.3.3.
- Australia's Native Vegetation Framework Consultation Draft (February 2010): actions 10, 11, 17, 20.

1.4 Proposed Native Vegetation Act Part Four

1.4.1 CBD Article 9: Ex-situ conservation

This article of the Convention on Biological Diversity is concerned with *ex situ* conservation, including focus on recovery and re-introduction of threatened species; regulation and management of wild collections and establishing facilities for *ex situ* conservation and research.

Proposed Principles

- Ensure *ex situ* methods are considered in any mitigation activity resulting from development or other impacts of plants.
- Recognise that the Royal Tasmanian Botanical Gardens is the centre of *ex situ* efforts through the Tasmanian Seed Conservation Centre.

Proposed Advisory Group

- Vegetation Management Policy Advisory Group

Proposed Administrative Arrangements

The Royal Tasmanian Botanical Gardens has recently been subsumed into a department that can provide policy support. In the light of this the role of the Royal Tasmanian Botanical Gardens Trustees, in respect of policy, needs re-examination.

Background Information

The purpose is to support plant conservation within Tasmania by complementing *in situ* plant conservation activities at a state level through a program of increased collection, storage and maintenance of seed from target species, and undertaking research to understand the germination and long-term storage requirements for such seed. Harris *et al*. (2009) has reviewed *ex situ* plant conservation in the state, and provides a status report and proposes a direction for such effort (the paper is attached as Appendix 4).

In 2002, delegates at the sixth meeting of the Conference of the Parties to the Convention on Biological Diversity (CBD) agreed to a Global Strategy for Plant Conservation (GSPC). The strategy is binding for all signatories to the CBD,

including Australia. The GSPC comprises sixteen targets to be achieved by 2010, with each target specifically designed to guide and measure the conservation of threatened plant species and ecosystems. The project is directly consistent with Target 8 of the GSPC:

> 60 per cent of threatened plant species in accessible ex situ collections, preferably in the country of origin, and 10 per cent of them included in recovery and restoration programs.

Storage of seed (or seed banking) is arguably the most efficient and effective means of *ex situ* plant conservation and, as such, seed banking is recognised as a vital component of the integrated conservation strategies designed to counter the loss of plant genetic diversity within Australia (Touchell *et al*. 1997). A partnership with the Millennium Seed Bank (Royal Botanical Gardens, Kew) provides the Tasmanian Seed Conservation Centre with an opportunity to enhance its capacity to effectively conserve Tasmania‘s threatened and priority plant species, as well as being at the forefront of activities within Australia to contribute to the *ex situ* conservation targets set by the GSPC.

Outcomes of a seed bank component of ex situ conservation are:

- an enhanced and strengthened capacity of Tasmania to collect and conserve Tasmania‘s threatened and priority plant species
- an increase in the number of long-term seed conservation collections of threatened and priority Tasmanian flora using the most current and appropriate seed banking and collecting technologies
- improved seed management procedures for long-term conservation collections held at the Tasmanian Seed Conservation Centre
- improved availability of seed, seed management information, and protocols.

Proposed Policy linkages

- Australia‘s Biodiversity Conservation Strategy 2010–2020 Consultation draft: actions 1.1.6
- Australia‘s Native Vegetation Framework Consultation Draft (February 2010): actions (no explicit link but implicit in Goals 1, 2, and 4).
- Strategic Masterplan for the Royal Tasmanian Botanical Gardens

1.5 Proposed Native Vegetation Act Part Five

1.5.1 CBD Article 10: Sustainable Use of Components of Biodiversity

This article of the Convention on Biological Diversity is concerned with integration into decision-making the following aspects: the consideration of the conservation and sustainable use of biodiversity; adoption of measures to guide the use of biological resources; protection and encouragement of traditional use of biological resources where they are compatible with requirements for conservation and sustainable use; encouragement of local involvement in biodiversity conservation; and encouragement of cooperation between government and private sectors in developing methods to assist sustainable biological resources use.

Proposed Principles

- Statewide industry sustainability plans that are developed through a Commonwealth-accredited process (to satisfy export approval requirements) and that will guide the ecological sustainable development of the industry.
- The plans will address the principles of Ecological Sustainable Development.

Proposed Advisory Group

- Proposed Sustainable Vegetation Products Advisory Group

Proposed Administrative Arrangements

A possible remedy for the current scattered arrangements would be establishing policy, reporting, monitoring and compliance aspects within the Department of Primary Industries, Water, Parks and Environment. The Forest Policy Unit and the Forest Practices Authority would therefore become part of the Department of Primary Industries, Water, Parks and Environment. Some policy development associated with innovation in industries such as biodiscovery has been carried out by the Department of Economic Development, Tourism and the Arts but this can then be transferred to the Department of Primary Industries, Water, Parks and Environment.

Background Information

The convergence of commercial and conservation goals combined under ecological sustainability outcomes is an important part of ~~"m~~ainstreaming biodiversity". The latter is a priority in the draft Australian Biodiversity Conservation Strategy.

The Farm Forestry Program is one that attempts to marry commercial aspirations with land management and biodiversity aims (Australian Government Department of Agriculture, Fisheries and Forestry 2003). The program was delivered under the auspices of both the Natural Heritage Trust and the National Action Plan for Salinity and Water Quality. Increasing efforts have been made in attempting to get a commercial return to landholders for NRM gains. The establishment of many projects under the program has been concerned with demonstrating potential benefits, carrying out experiments that will yield botanical information, capacity building, and kick-starting promising ventures. Case studies exist (Australian Government DAFF, 2003) of these types of projects, including those that benefit native vegetation management.

Private funding was expected as a leveraged contribution against Commonwealth funds. If the program is ultimately successful, a major benefit will have to be the introduction of the expectation of commercial outcomes from biodiversity and vegetation management on private land. This indicates that the commercial use of native vegetation and flora needs to be integrated into a native vegetation management framework. An approach for native forests is already indicated in a framework developed for forests where commercial, as well as conservation and recreation, outcomes were required. Thackway and Cresswell (2005), who considered it was a model for forest management, carried out an assessment of this approach.

Sustainable commercial use of vegetation and its products is to be provided for. Products classed as ecosystem services are dealt with below, but products *removed* from the vegetation may encompass timber, honey, treeferns, and genetic resources. The Act would specify the preparation of an industry plan to govern the operation of that industry. The harvest of timber, for example, might immediately be covered under the Regional Forest Agreement were the Act to be promulgated prior to 2017.

Managing the flora for products and sustainable economic products is the focus of this part of the Act. Similar principles apply for all products, but the application of them will vary according to the scale of the operation and will cover, for example, forestry (timber, wood fibre), wild flora, bark, honey, food ingredients, chemicals, and seed.

Proposed Policy Linkages

- Australia's Biodiversity Conservation Strategy 2010–2020 Consultation draft: actions 2.2.3, 2.3.1, 2.3.2, 3.1.2, 3.2.1, 3.2.2, 4.1.3, 4.3.1, 5.3.3, 5.3.5, 5.4.2, 5.4.3, 5.4.4.
- Australia's Native Vegetation Framework Consultation Draft (February 2010): actions 10, 11, 16, 17, 18, 25.

1.5.2 CBD Article 15: Access to Genetic Resources

This article of the Convention on Biological Diversity is concerned with facilitating access to genetic resources without running counter to CBD objectives; specifying other conditions of access to genetic resources regarding mutually agreed terms, prior informed consent, equable sharing of benefits and full participation in research.

Proposed Principles

Any access to genetic resources such as through bioprospecting will be covered in each instance by an Access and Benefit Sharing Agreement together with prior informed consent if applicable.

Proposed Advisory Group

- Interdepartmental Committee on Access to Genetic Resources

Proposed Administrative Arrangements

The Advisory Group would be coordinated through the Department of Primary Industries, Parks, Water and Environment. This department administers collecting or taking permits for marine life, fisheries to terrestrial biodiversity.

Background Information

In common with most other states, Tasmania has not regulated bioprospecting activities, or at least has had a piecemeal approach to regulation as an incidental measure. The Commonwealth and the states together produced the nationally consistent guidelines to the access to genetic resources (Natural Resource Management Ministerial Council 2002) and this document provides a set of principles to which all jurisdictions should aspire. This is a demonstration of the ideal role of the cooperative federalism approach and the role of the Council of Australian Governments.

Proposed Policy Linkages

- Australia's Biodiversity Conservation Strategy 2010–2020 Consultation draft: actions 4.1.3
- Australia's Native Vegetation Framework Consultation Draft (February 2010): 1, 23.
- Nationally Consistent Approach for Access to and the Utilisation of Australia's Native Genetic and Biochemical Resources.

1.5.3 CBD Article 19: Handling of Biotechnology and Distribution of Benefits

This article of the Convention on Biological Diversity is concerned with the contracting parties taking policy measures to provide for full participation in biotechnological research, especially by parties providing the genetic resources; considering a protocol for the handling and use of any ~~"~~modified organism resulting from biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity".

Proposed Principles

- defining ownership of resources
- providing for Access and Benefit Sharing Agreements
- where vegetation resources are concerned, provides for industry sustainability plans
- provides for safe trade in GMOs

- provides for industry sustainability plans that meet criteria for national export approval.

Proposed Advisory Group

Sustainable Vegetation Products Advisory Group (subsumes functions of the Interdepartmental Committee on Access to Genetic Resources and some tasks of the Vegetation Management Policy Advisory Group)

Proposed Administrative Arrangements

Current arrangements for topics under this heading are concentrated in the Department of Primary Industries, Parks, Water and Environment so there are no cross-cutting issues, although government business enterprises may need guidelines if they embark on relevant business ventures.

Background Information

Tasmania has adopted a policy position that keeps most genetically modified crops out. Canola is the exception. A political judgement has been made that adherence to this approach will be a differentiating factor in the market. On a political level, the moral argument for adopting all reasonable means to increase food production in a global environment of increasing population and diminishing arable land will need to be weighed against the premium prices that may be attracted from a ~~–G~~M-free" niche in the market.

Proposed Policy Linkages

- Australia's Biodiversity Conservation Strategy 2010–2020 Consultation draft
- Australia's Native Vegetation Framework Consultation Draft (February 2010)
- Biovision Tasmania 2007–2015. Tasmania's Biotechnology Strategy, June 2007. Department of Economic Development and Tourism.
- Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilization.
- Tasmanian Treefern Management Plan

- Nationally Consistent Approach for Access to and the Utilisation of Australia‘s Native Genetic and Biochemical Resources (Natural Resource Management Ministerial Council, 2002)

1.6 Proposed Native Vegetation Act Part Six

1.6.1 CBD Article 11: Incentive Measures

This article of the Convention on Biological Diversity is concerned with adopting incentives for conservation and sustainable use that are economically and socially sound.

Proposed Principles

- allows for payments through government from time to time for managing vegetation only where the management is above and beyond ―duty of care”
- allows for other measures such as reductions in land tax for conservation covenants
- allows for property conservation planning as a context for industry certification on the basis of sustainable vegetation management.

Proposed Advisory Group

- Vegetation Management Policy Advisory Group

Proposed Administrative Arrangements

The Protected Areas on Private Land Conservation Program is managed by the Department of Primary Industries, Parks, Water and Environment but increasingly, privately funded organisations are engaged in the same endeavour. A map of incentive measures is required and a diagrammatic illustration of how they relate to environmental certification schemes and policies is necessary.

Background Information

Market-based instruments and incentive measures are treated together here on the basis that the best incentive for sustainable management of vegetation is the likelihood of some monetary return. Incentive measures are quite varied across Australia. They range from tax concessions, management agreement payments and

assistance with such things as fencing of remnants. Market-based instruments are more recent mechanisms and commonly involve a property plan and certification of sustainable agricultural production, commonly tied to a logo or certification mark. –Green wool" and –Field Fresh" have been Tasmanian examples.

Proposed Policy Linkages

Australia's Biodiversity Conservation Strategy 2010–2020 Consultation draft: actions 2.2.2, 4.3.1, 4.4.2.

- Australia's Native Vegetation Framework Consultation Draft (February 2010): actions 1, 10, 14, 16.

1.7 Proposed Native Vegetation Act Part Seven

1.7.1 CBD Article 12: Research and Training

This article of the Convention on Biological Diversity is concerned with establishing and maintaining scientific and technical training in biodiversity conservation and sustainable use; promoting research, especially scientific advances in biodiversity research and the development of methods for conservation and sustainable biological resource use.

Proposed Principles

- To service the aims of biodiversity conservation and vegetation management, sufficient Research must be directed towards management requirements. This will be set by strategic priorities.
- Sufficient research must be directed to assessing the sustainability of various activities.

Proposed Advisory Group

- Research and Training Advisory Group.

Proposed Administrative Arrangements

Research and training will be a critical component of evidence-based policy. Academia may construe research priorities differently to government, and particularly land management authorities. Research directed to solving problems for

managers of biodiversity should be given a high priority in this framework. This means collaboration between research organisations and government.

Background

Flora conservation and management is underpinned by technical issues as complex as any area of government responsibility. The complexity is greater than usually appreciated by the public. The importance of research is in provision of information that can set the parameters for conservation and sustainable use of flora resources. This is critical for governments in making defensible vegetation policy. Research must be a continuing activity because some will be directed at monitoring studies for adaptive management and some will be using more sophisticated and powerful techniques. There will be a need to address different questions as time passes.

A neglected area of research is in policy development. The effectiveness of policy instruments, the efficacies of policy measures in place in achieving desired outcomes as well as policy synergy are some areas that need to be investigated.

Acknowledgment that science must underpin policy decisions and directions is now widely accepted. It is explicit in such documents as BDAC and ANZECC Vegetation Management and Monitoring Framework, the growth of appropriate disciplines in conservation biology and the appearance of many new journals for the dissemination of this science have helped to underpin the assumptions and guidelines used in natural area management. The penetration of scientifically derived principles is now considered highly desirable and the pitfalls for nature conservation of not applying the principles learned from a science program are illustrated by Chase (1987).

The science has to be interpreted and applied in the appropriate context however and there needs to be processes and skills available in government to do this. The setting of vegetation policy parameters guided by research outcomes may always be a vexed activity. The vegetation policy agenda is driven by sectional community interests and ambitions bound up with wider socio-political movements. For example, the logging of old growth is seen in a simplistic fashion. Rather than focus on growth stages and successional sequences involving catastrophic natural disturbances, the perception fixes the issue in a rigid spatial and temporal context.

Research strategies for the state are required that address a hierarchy of expectations from research including:

- fundamental botanical research that may have wide implications beyond Tasmania's vegetation
- short-term question-driven research
- long-term monitoring/ temporal research
- practical research aimed at improvements in information capture, storage, analysis and presentation of aspects of the government's information systems
- ecological process-driven research – for fire this might, for example, be represented by research topics under any of the above headings.

Existing research strategies are useful, but unless carefully formulated with wide input they may reflect the pool of interests of the proponents (Bryant and Anderson 1997). They may also suffer from an absence of the wider state context and lacking a strategic framework, as in a draft research strategies for a particular part of the reserve system such as the World Heritage Area. The Biological Diversity Advisory Council (2000) research priorities may be the best overview plan and poses lists of research actions that deliver answers to some questions. Research strategies need to consider their wider context.

Other issues to consider are principles of strategies, who sets the priorities, publications and their importance in conferring authority on the results, uses of the research and the breadth of scope of the research.

Science commentators have lamented the general lack of follow-through into public policy from scientific findings, suggesting that advances in science are leaving policymakers and politicians behind. Cribb (2007) advocated a ~~–s~~ystem that reliably injects the latest and best scientific advice into government decision-making" (Cribb 2007:35). Suggesting that politicians do not take seriously enough the Prime Minister's Science, Engineering and Innovation Council, he suggests other avenues for influential advice to government such as an independent national science council. Let us at least consider a state-based council concerned with the vegetation theme.

Proposed Policy Linkages

- Biodiversity Research. Australia‘s Priorities (Biological Diversity Advisory Council (2000)
- Nature Conservation Strategy
- WHA Research Strategy; WHA Research Priorities
- Australia‘s Biodiversity Conservation Strategy 2010–2020 Consultation draft
- Australia‘s Native Vegetation Framework Consultation Draft (February 2010)

1.7.2 CBD Article 13: Public Education and Awareness

This article of the Convention on Biological Diversity is concerned with developing programs for education and public awareness, especially about the measures needed for biodiversity conservation.

Proposed Principles

- facilitation of education and public awareness programs ensuring content is informed by the best science
- workers in vegetation science and in education need to develop content and course materials working in close consultation with practitioner stakeholders.

Proposed Advisory Group

- Research and Training Advisory Group.

Proposed Administrative Arrangements

The consultation draft of Australia‘s Biodiversity Conservation Strategy 2010–2020 places emphasis on public education and awareness. To target the message, a collaboration of education professionals and conservation policy specialists will be required. The proposed advisory group will reflect this synergy.

Background

The background, against which education and public awareness programs operate, is a public that is generally well aware of the fundamental benefits of vegetation conservation. Education will need to continually reflect lessons and knowledge

from the best science while public awareness programs most likely need to target particular issues where the message is more complex. For example, these might include the potential commercial properties of plant compounds, biodiscovery and the policy framework around it.

Proposed Policy Linkages

- Australia's Biodiversity Conservation Strategy 2010–2020 Consultation draft: actions 2.1.1, 2.1.2, 3.1.1, 3.1.2, 3.1.3, 3.1.4, 5.3.2, 6.2.1.
- Australia's Native Vegetation Framework Consultation Draft (February 2010): actions 19.

1.7.3 CBD Article 16: Access to and Transfer of Technology

This article of the Convention on Biological Diversity is concerned with providing access to, and transfer between contracting parties of technologies relevant to biodiversity conservation and sustainable use; patents, intellectual property rights, administrative and policy measures in respect of technology transfer between states.

Proposed Principles

- maintain close liaison with the Australian Government where protection of Tasmania's interests is at stake
- contribute to national policy measures to ensure maximum benefit flow to jurisdictions.

Proposed Advisory Group

- Interdepartmental Committee on Access to Genetic Resources.

Proposed Administrative Arrangements

While clearly concerning mainly interactions between signatory states at the international level, there will be concerns arising from jurisdictions within Australia and the protection of their rights and interests. Tasmania would liaise with relevant Commonwealth officials by way of the Tasmanian Department of Economic Development, Tourism, Heritage and the Arts, in liaison with the Australian Government Departments of Innovation, Industry, Science and Research as well as Foreign Affairs and Trade.

Background Information

The subject of this Article has directly involved the Australian Government rather than state and territory jurisdictions although there is no reason why the states and territories cannot formally engage with the Commonwealth. Benefits may ultimately accrue to the Australian jurisdiction if there were incentives in broadening discussion of technology transfer. The Australian Government would benefit by strengthening its knowledge of relevant developments across the country, and state and territory jurisdictions would benefit by gaining/providing access to technology innovation on appropriate terms.

Proposed Policy Linkages

- Australia's Biodiversity Conservation Strategy 2010–2020 Consultation draft: actions 5.3.5.
- Australia's Native Vegetation Framework Consultation Draft (February 2010): actions 1, 21.

1.7.4 CBD Article 17: Exchange of Information

This article of the Convention on Biological Diversity is concerned with exchange of information and results of scientific research, indigenous and specialised knowledge, between contracting parties.

Proposed Principles

- engagement with international programs that enhance the skills and knowledge of Tasmanian vegetation management and policy practitioners that would benefit Tasmania would be encouraged.

Proposed Advisory Group

- Research and Training Advisory Group.

Proposed Administrative Arrangements

No particular extant or proposed administrative arrangements are discussed here. Authorisation for government officers to travel overseas or participate in international programs would continue to require Ministerial authorisation.

Background

This CBD Article is only of indirect applicability for the Tasmanian jurisdiction being the island state of an isolated nation where a high degree of technical, scientific, management and policy expertise already exists. Therefore, needs for imports of international assistance are rarely necessary, although Australian practitioners have much to contribute overseas. Direct opportunities arise for individuals and organisations for international collaboration and these can contribute to the national effort in meeting the goals of this Article.

Proposed Policy Linkages

- Australia's Biodiversity Conservation Strategy 2010–2020 Consultation draft: actions 3.1.3, 3.1.4, 3.2.1, 3.2.2, 3.2.3, 5.3.1, 5.3.3.
- Australia's Native Vegetation Framework Consultation Draft (February 2010)

1.7.5 CBD Article 18: Technical and Scientific Cooperation

This article of the Convention on Biological Diversity is concerned with promotion of international scientific and technical cooperation and joint research programs in respect of conservation and sustainable use of biodiversity.

Proposed Principles

- research is to be directed towards improvements in both management and sustainability of vegetation and in policy improvement
- strategies outlining priorities will guide research directions
- research strategy—national and international interaction
- making research available
- interpreting research
- applied research program. A list of priorities generated through a workshop is required and should become a guide for the preparation and approval of research grant proposals.

Proposed Advisory Group

- Vegetation Management Research Advisory Group

Proposed Administrative Arrangements

Research, especially some fundamental and process-oriented work, will generally be best placed in universities, research organisations such as CSIRO, and university-affiliated organisations such as the Tasmanian Institute of Agricultural Research. The policy research would be best carried out in the lead agency (DPIPWE) but could be done in conjunction with university-based researchers.

Long-term monitoring programs are best carried out by a government agency but the resulting data should, of course, be made widely available to researchers outside government. The Advisory Group can oversee research strategic directions and recommend the appropriate research community.

Background Information

This CBD Article addresses the need for cooperation among CBD signatory states on research. While this is an issue for discussion at the national level, practical cooperation is aided by data exchange, provision of in-kind contributions, and recognition of the financial value of research products.

Vegetation management and policy development require research that can inform different aspects such as vegetation process, management effectiveness, and policy instruments and their effectiveness. Closer engagement between government and research institutions would obviously be helpful, but funding sources presently will determine when and where this happens.

Proposed Policy Linkages

- Australia‘s Biodiversity Conservation Strategy 2010–2020 Consultation draft: actions 3.1.2, 3.1.3, 3.1.4.
- Australia‘s Native Vegetation Framework Consultation Draft (February 2010): actions 16.

1.8 Proposed Native Vegetation Act Part Eight

1.8.1 CBD Article 14: Impact Assessment and Minimising Adverse Impacts

This article of the Convention on Biological Diversity is concerned with adoption of procedures for assessing environmental impacts and avoiding or minimising such

effects; ensure impacts on biodiversity are considered and accounted for in programs and policies; promoting cooperative arrangements to avoid or minimise adverse effects of activities on biodiversity values beyond jurisdictional boundaries; promoting national arrangements to deal with urgent environmental threats; examining the issue of compensation and liability for damage to biodiversity.

Proposed Principles

- establish processes for assessment of impacts and develop vegetation criteria against which assessments can be made
- no potentially important impacts can occur without assessment and the opportunity to firstly prevent, or secondly to mitigate the impact, or otherwise provide some way of improving the outcome for vegetation
- specify that codes of practice may be developed where particular industries are anticipated to have periodic or routine effects on vegetation
- allow that assessment tools should be developed and made readily available and used in transparent application processes
- formalise an offsets/no net loss
- formulate policy that also costs the total attrition in the system.

Proposed Advisory Group

- Development Impacts and Assessments Advisory Group

Proposed Administrative Arrangements

Currently the most complex area of all, it presents the greatest challenges and potential rewards for policy reform. Integration of local government processes into statewide policy and legislative frameworks still needs much more work and the area needs simplification. Local government participates in the NRM regional committee process but more involvement in state government process through membership on the various advisory groups is essential, particularly in respect of development impacts and planning processes.

Background

Vegetation and flora values need to be managed in the context of ecologically sustainable economic development.

Proposed Policy Linkages

- Australia‘s Biodiversity Conservation Strategy 2010-2020 Consultation Draft: actions 1.2.1.
- Australia‘s Native Vegetation Framework consultation draft (February 2010).